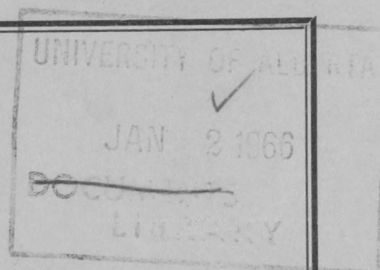


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SIXTEENTH ANNUAL REPORT

OF THE

Department of Mines and Minerals

OF THE

PROVINCE OF ALBERTA

FOR THE

Fiscal Year Ended March 31st
1965

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SIXTEENTH ANNUAL REPORT

OF THE

Department of Mines and Minerals

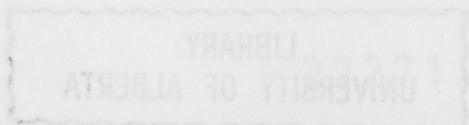
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To the Honourable J. Percy Page,
Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to submit the Report of the Department of Mines and Minerals for the fiscal year ended March 31st, 1965.

I have the honour to be, Sir,

Your obedient servant,

A. RUSSELL PATRICK,

Minister of Mines and Minerals.

Edmonton, November 16, 1965.

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CHIEF OFFICERS
DEPARTMENT OF MINES AND MINERALS
MARCH 31st, 1965

Hon. A. Russell Patrick.....*Minister*
H. H. Somerville.....*Deputy Minister*
P. G. Schmidt.....*Solicitor*
C. E. Dolan.....*Statistician*
W. E. Shillabeer.....*Administrative Accountant and
Personnel Officer*

MINERALS DIVISION

J. W. Patrick.....*Director*
R. A. Seaton.....*Assistant Director*
D. R. Jordan.....*Supervisor of Revenue*
W. H. Roy.....*Supervisor of Reservations,
Permits and Licences*
D. F. Morrison.....*Supervisor of Leases and Mining
Recorder, Edmonton District*
D. C. MacMillan.....*Mining Recorder, Calgary District*

MINERAL TAX DIVISION

J. A. Savage.....*Superintendent*
I. M. Harrington.....*Assistant Superintendent*
W. McGechie.....*Chief Assessor*

MINES DIVISION

J. A. Dutton.....*Director*
J. D. B. Brown.....*Assistant Director*

PIPE LINE DIVISION

A. L. Berry.....*Superintendent*
G. W. B. Bullymore.....*Assistant Superintendent*

TECHNICAL DIVISION

J. M. Novak.....*Superintendent*
E. G. Staniforth.....*Assistant Superintendent*
E. D. Barnard.....*Supervisor of Records*

SIXTEENTH ANNUAL REPORT

of the

Department of Mines and Minerals

HONOURABLE A. RUSSELL PATRICK,

Minister of Mines and Minerals,

Edmonton, Alberta

Sir:

I have the honour to present the Annual Report of the Department of Mines and Minerals for the fiscal year ended March 31, 1965.

New records of production were established in several sectors of Alberta's petroleum and natural gas industry. Crude oil production in the Province reached a new high in 1964 with a total of 176,183,758 barrels, an increase of approximately 8,000,000 barrels from 1963. Pentanes plus production increased from 20.6 million barrels to 23.2 million barrels, while production of propane has risen 2,000,000 barrels from 3.5 to 5.6 million barrels. Natural gas marketed increased to 740,806,621 Mcf. from 673,703,046 Mcf. in 1963.

Production of sulphur, as in the previous year, registered significant gains, with production increasing to 1.4 million long tons from 1.2 million long tons in 1963. Gross value of sales of sulphur increased from \$11 million to \$16.8 million.

Total drilling, in terms of footage, surpassed previous records of more than 10 million feet established in 1956 and 1960. Footage drilled during 1964 was more than 10,340,000 feet.

Of the 740,806,621 Mcf. of natural gas marketed during 1964, 164,124,938 Mcf. was consumed in Alberta, 269,986,657 Mcf. consumed in the balance of Canada and 306,695,026 Mcf. exported to the United States.

Reserves of crude oil, natural gas and natural gas liquids showed marked gains during 1964. Crude oil reserves increased by two billion stock tank barrels from 1963. This increase is substantially greater than in previous years and is due, largely to recognition of enhanced recovery efficiency in new injection schemes and an extensive review of all major oil reserves. While the 1964 discoveries were slightly below the trend for the past two years, indications are that the discovery at Mitsue will develop into an extensive reserve.

Reserves of natural gas to the end of December, 1964, are estimated to be in excess of 35.3 trillion cubic feet, an increase of 2.4 trillion cubic feet since December, 1963. Increase in reserves is a result of development drilling and extension of reserves found in previous years. Recoverable reserves of natural gas liquids to the end of 1964 are 1,090 million barrels, an increase of 185 million barrels during the year.

During 1964, construction of pipe lines in the Province totalled 1,344 miles, a decrease of approximately 800 miles from 1963. Total mileage of pipe lines in the Province increased from 13,732 miles to 15,076 miles.

Major projects included the completion of a 275-mile crude oil transmission line from the Taber area, north to Interprovincial Pipe Line's Hardisty pumping station. The line provides south-eastern Alberta oil fields with a pipe line outlet for the first time.

Other projects include completion of a 100-mile crude oil line from the Slave Lake-Mitsue oil field to Redwater and an 87-mile Alberta Gas Trunk Line loop from Princess to Hussar.

Natural gas service was furnished to seven communities during 1964. They include: Castor, Cessford, Beaverlodge, Hythe, Smoky Lake, Valleyview and Whitecourt. These additions increased the total to 260 cities, towns, villages, hamlets and other communities now served by natural gas in Alberta.

Included in the 14 gas processing plants completed during 1964 are four plants costing more than \$1 million each. Largest of these is the \$5 million Socony plant at Wimborne. Other large projects include a \$3.2 million plant at Olds, a \$1.7 million plant at Willesden Green and a \$1.5 million plant at East Crossfield.

Total expenditure on plant construction during 1964 was more than \$13,200,000. Cost of construction for four plants, one at Wayne-Rosedale, two at Sylvan Lake and one at Provost, was not available.

During the past year, the Oil and Gas Conservation Board formulated a new plan for proration of oil to market demand. At the last Session of the Legislature there were amendments to The Oil and Gas Conservation Act to facilitate the transition to and implementation of the new plan. There were also minor amendments to The Mineral Taxation Act, The Pipe Line Act, 1958, The Mines and Minerals Act, 1962 and The Right of Entry Arbitration Act.

A provision in the Clay and Marl Act of 1961 continued those clay and marl leases which had previously been granted by the Department until their termination. By The Clay and Marl Crown Leases Act passed at the last Session, provision was made for the Department to pay out the royalties received to the owners of the surface of the land.

During the fiscal year, 1,250 reclamation certificates were issued under section 15 of The Surface Reclamation Act. There were 408 reclamation certificates issued by the Chairman under section 16 and 296 orders were issued by the Council for conducting additional work.

A separate report is issued yearly by the Mines Division and may be obtained in the Natural Resources Building, Edmonton, Alberta.

Detailed reports of the other Divisions follow.

All of which is respectfully submitted.

H. H. Somerville,
Deputy Minister.

November 8, 1965.

MINERALS DIVISION

Report of the Director of Minerals

J. W. PATRICK

The sixteenth year of administration by the Department of Mines and Minerals was one of even greater activity.

Footage drilled for petroleum and natural gas during 1964 was 10,340,522 feet. This was an increase of 533,731 feet over the previous year. The production of crude oil increased to 176,183,758 barrels being an increase of 7,969,704 barrels from 1963. The number of producing wells increased from 11,437 to 12,114 and were capable of maintaining an average daily rate of production of 1,089,000 barrels at December 31, 1964 under good production practice in accordance with sound engineering and economic principles. Because of inadequate markets the average daily oil produced during the year was only 482,695 barrels, an increase of five per cent from the previous year. There were 1,919 licences issued to drill for oil or gas during 1964 compared with 1,734 licences during the previous year.

Production of coal in Alberta in 1964 increased by 681,190 tons.

The production and value of Alberta's chief minerals for 1964 were crude oil, 176,183,758 barrels valued at \$450,321,888; pentanes plus, 23,298,914 barrels valued at \$60,208,991; coal, 2,971,133 tons valued at \$11,189,087; natural gas marketed, 740,806,621 Mcf., valued \$66,672,596; and salt, 55,383 tons valued at \$1,777,266. The annual production of sulphur has now reached 1,413,154 long tons valued at \$15,630,989.

Mineral rights, solid, liquid and gaseous, the property of the Crown in right of Alberta, are not sold, but are disposed of by lease, reservation, licence, permit or other agreement for limited periods of time. Revenue is obtained from fees, rentals, bonuses, royalties, sales of leases and other miscellaneous charges. During the fiscal year these sources provided a revenue of \$203,589,007.83, being an increase of \$54,163,154.98 from the previous year. Sales of leases and reservations in Crown Reserves were held on four occasions in the fiscal year and the revenue from this source increased by 38 million dollars.

The Province is divided into two mining districts; the Edmonton district comprises that portion of the Province lying to the north of the north boundary of Township 42 and the balance of the Province lying to the south is contained in the Calgary district.

During the year 3,775 applications for mineral rights were filed at the office of the Mining Recorders in Edmonton and Calgary and at the office of the Department in Edmonton. Many inquiries were made as to the availability of mineral rights, mostly for petroleum and natural gas leases and reservations by personal application and by correspondence.

A tabulation of leases together with statements of business transacted follows.

MINERALS DIVISION LEASES

Type of Lease	Active at April 1, 1964	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31, 1965
Petroleum and Natural Gas	29,136	2,824	186	142	2,924	.....	29,364
Natural Gas	915	63	3	7	8	.....	980
Petroleum	8	2	.....	.....	.....	.....	10
Coal	419	49	.....	.....	31	14	423
Road Allowance Coal	96	8	.....	.....	.....	2	102
Quarrying	104	3	.....	.....	9	.....	98
Salt	2	.....	.....	.....	.....	.....	2
Bituminous Sands	79	3	.....	.....	.....	.....	82
Oil Sands	19	6	.....	.....	.....	.....	25
Iron	5	1	.....	.....	.....	.....	6
Sodium Sulphate	2	.....	.....	.....	.....	.....	2
Miscellaneous	5	.....	.....	.....	.....	.....	5
TOTAL	30,790	2,959	189	149	2,972	16	31,099

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at April 1, 1964	Issued	Reinstated	Cancelled	Renewed	Active at March 31, 1965
Petroleum and Natural Gas	26,995,898	3,367,970	151,166	2,636,538	.....	27,878,496
Natural Gas	3,882,090	308,170	11,559	46,381	.....	4,155,438
Petroleum	44,311	1,280	.....	.....	.....	45,591
Coal	181,192	27,667	.....	40,086	2,323	166,450
Quarrying	19,197	377	.....	590	.....	18,984
Salt	1,204	.....	.....	.....	.....	1,204
Bituminous Sands	2,516,126	99,421	.....	7,808	.....	2,607,739
Oil Sands	685,842	146,864	.....	.....	.....	832,706
Iron	26,399	6,980	.....	.....	.....	33,379
Sodium Sulphate	2,136	.....	.....	.....	.....	2,136
Miscellaneous	446	.....	.....	.....	.....	446
TOTAL	34,354,841	3,958,729	162,725	2,731,403	2,323	35,742,569

STATEMENT OF BUSINESS TRANSACTED, 1964-1965

PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued	2,824	3,367,970
Leases cancelled and relinquished	2,924	2,636,538
Leases reinstated	186	151,166
Reservations issued	369	19,216,404
Reservations terminated	162	8,030,936
Crown reserve drilling reservations issued	106	909,945
Crown reserve drilling reservations terminated	80	702,680
Permits issued	147	2,066,984
Permits terminated	105	1,431,626
Natural gas licences issued	20	268,516
Natural gas licences terminated	19	281,040
Crown reserve natural gas licences issued	1	22,880
Crown reserve natural gas licences terminated	5	105,800
Natural gas leases issued	63	308,170
Natural gas leases cancelled and relinquished	8	46,381
Natural gas leases reinstated	3	11,559
Petroleum leases issued	2	1,280
Fees, rentals, penalties and bonuses collected		\$ 48,032,061.20
Royalties collected		62,094,571.46
Crown reserve sales		91,908,326.63
TOTAL		\$202,034,959.29

COAL

	Number	Acres
Leases issued	49	27,667
Leases cancelled and relinquished	31	40,086
Road Allowance Leases —		
Leases issued	8	
Fees and rentals collected		\$ 62,602.08
Royalties collected		174,003.24
TOTAL		\$236,605.32

QUARRYING

	Number	Acres
Leases issued	3	377
Leases cancelled and relinquished	9	591
Fees and rental collected		\$ 31.00
Royalties collected		63,733.85
TOTAL		\$ 63,764.85

MISCELLANEOUS

	Number
Bituminous sands prospecting permits issued	3
Bituminous sands prospecting permits terminated	4
Bituminous sands leases issued	3
Oil sands prospecting permits terminated	3
Oil sands leases issued	6
Quartz—	
Claims recorded	213
Certificates of work issued	250
Transfers recorded	3
Certificates of grouping issued	5
Placer—	
Renewals issued	1
Roadway sales	5
Iron Leases issued	1
Iron prospecting permits terminated	4
Well Licences issued	2,116
Geophysical licences issued	102
Permits to operate geophysical equipment issued	9
Permits to operate geophysical equipment renewed	55
Fees, rentals, royalties and miscellaneous charges	\$1,253,678.37

PETROLEUM AND NATURAL GAS

Leases—During the year 2,824 petroleum and natural gas leases were granted covering 3,367,970 acres and at the close of the fiscal year a total of 29,364 leases were in existence comprising an area of 27,878,496 acres. The Mines and Minerals Act, 1962, which came into force on June 1, 1962, provided that each petroleum and natural gas lease granted following an application made under the Act would be for a term of ten years and at the end of the fiscal year there were 4,938 of these leases comprising 3,833,010 acres. Leases formerly granted were for a term of 21 years and any lease that follows a petroleum and natural gas reservation or Crown reserve drilling reservation that was granted before June 1, 1962 also has a term of 21 years. In the same way if a 21 year lease is transferred only as to a portion or is divided, the new lease for the transferred portion or divided portion also carried the 21 year term.

The revenue received from fees amounted to \$29,320.00. The revenue from lease rentals was \$25,071,816.07 and the revenue from bonuses accepted by the Mining Recorders at sales of petroleum and natural gas leases by tender amounted to \$2,476,007.96. The revenue from compensatory royalty on petroleum and natural gas leases amounted to \$106,744.27.

Disposal of Crown Reserves—Petroleum and natural gas rights comprised in Crown reserves may be disposed of by order of the Lieutenant Governor in Council and during the year 548

leases, 11 reservations, 106 Crown reserve drilling reservations and one Crown reserve natural gas licence were purchased and particulars of these Crown reserve purchases are included in this report. Particulars of Crown reserve fractional area leases purchased and Crown reserve natural gas leases purchased are also included.

CROWN RESERVES PURCHASED IN CAROLINE AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W. $\frac{1}{4}$ 30-34-5-5 & N.E. $\frac{1}{4}$ 25-34-6-5 (Except Natural Gas in the Basal Quartz Sandstone and Elkton Zones)	Canada Permanent Trust Company	\$ 11,952.25
N.W. $\frac{1}{4}$ 31-34-5-5 (Except Natural Gas in the Basal Quartz Sandstone and Elkton Zones)	Canada Permanent Trust Company	5,899.20
		<u>\$ 17,851.45</u>

CROWN RESERVES PURCHASED IN DEER MOUNTAIN AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W. $\frac{1}{4}$ 18 & SW $\frac{1}{4}$ 19-70-10-5 & S.E. $\frac{1}{4}$ 24-70-11-5	Denison Mines Limited	\$ 276,099.10
W. $\frac{1}{2}$ 9 & S.W. $\frac{1}{4}$ 16-70-11-5	Whitehall Canadian Oils Ltd., Canadian Superior Oil Ltd. and Petrobec Ltd.	112,500.00
N.W. $\frac{1}{4}$ 15 & S.W. $\frac{1}{4}$ 22-70-11-5	The California Standard Company, Standard Oil Company of British Columbia Limited and Shell Canada Limited	304,524.00
Sec. 17-70-11-5	Whitehall Canadian Oils Ltd., Canadian Superior Oil Ltd. and Petrobec Ltd.	305,000.00
		<u>\$ 998,123.10</u>

CROWN RESERVES PURCHASED IN GLENEVIS AREA

Description	Offer Accepted From:	Cash Purchase Price
Sec. 10-56-4-5	The Calgary & Edmonton Corporation Limited	\$ 40,756.00
Sec. 11-56-4-5	The Calgary & Edmonton Corporation Limited	36,276.00
		<u>\$ 77,032.00</u>

CROWN RESERVES PURCHASED IN KAYBOB AREA

Description	Offer Accepted From:	Cash Purchase Price
Sec. 33-64-17-5 (Except Natural Gas in Notikewin Zone)	The Atlantic Refining Company	\$ 17,689.00
Sec. 31-64-19-5	Pacific Petroleum Ltd., The British American Oil Company Limited and The California Standard Company	72,100.33
		<u>\$ 89,789.33</u>

CROWN RESERVES PURCHASED IN MITSUE AREA

Description	Offer Accepted From:	Cash Purchase Price
Sec. 7-71-3-5	Standard Oil Company or British Columbia Limited	\$ 1,051,666.00
Sec. 5-71-4-5	Socony Mobil Oil of Canada, Ltd.	470,000.00
Sec. 8-71-4-5	Imperial Oil Developments Limited	1,122,984.00
Sec. 13-71-4-5	Standard Oil Company of British Columbia Limited	611,111.00
S.W. $\frac{1}{4}$ 17-71-4-5	Imperial Oil Developments Limited	281,888.00
		<u>\$ 3,537,649.00</u>

CROWN RESERVES PURCHASED IN PEMBINA AREA

Description		Offer Accepted From:	Cash Purchase Price
S. $\frac{1}{2}$	6-48-3-5 &	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), Fargo Oils Ltd. and J. M. Huber Corporation	6 142,861.00
S.E. $\frac{1}{4}$	1-48-4-5	Kerr-McGee Oil Industries, Inc.	13,280.00
W. $\frac{1}{2}$	30-47-2-5	Professional Oil and Gas Co. Ltd.	9,600.00
Sec.	4-48-3-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation, Fargo Oils Ltd. and Mid-Western Industrial Gas Ltd.	156,354.00
N. $\frac{1}{2}$ 2 & N. $\frac{1}{2}$	3-48-4-5	Northern Natural Gas Producing Company	43,200.00
E. $\frac{1}{2}$	23-50-9-5	Montreal Trust Company	8,694.40
N. $\frac{1}{2}$	4-48-4-5	Montreal Trust Company	7,401.60
S. $\frac{1}{2}$	4-48-4-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation, Fargo Oils Ltd., Mid-Western Industrial Gas Ltd. and Baldonnel Oil & Gas Ltd.	11,540.00
S.W. $\frac{1}{4}$	10-48-4-5	Dome Petroleum Limited and Provo Gas Producers Limited	25,004.00
S.W. $\frac{1}{4}$	3-47-8-5	Sun Oil Company	88,425.00
S. $\frac{1}{2}$	4-47-8-5	Sun Oil Company	29,500.00
S.E. $\frac{1}{4}$	5-47-8-5	Sun Oil Company	83,100.00
N. $\frac{1}{2}$ 32 & N. $\frac{1}{2}$	33-46-8-5	Texaco Canada Limited	49,920.00
N. $\frac{1}{2}$	34-46-8-5	Texaco Exploration Company and Texaco Canada Limited	18,157.00
Sec.	3-51-11-5	Texaco Exploration Company and Texaco Canada Limited	54,528.00
Sec.	4-51-11-5		
			\$ 741,065.00

CROWN RESERVES PURCHASED IN RED EARTH AREA

Description		Offer Accepted From:	Cash Purchase Price
N. $\frac{1}{2}$ 13 & S.W. $\frac{1}{4}$	24-87-9-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	\$ 37,978.00
Sec.	27-87-8-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	20,150.00
N. $\frac{1}{2}$	5-88-8-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	17,308.00
N. $\frac{1}{2}$	12-88-9-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	25,948.00
			\$ 101,384.00

CROWN RESERVES PURCHASED IN SNIPE LAKE AREA

Description		Offer Accepted From:	Cash Purchase Price
S. $\frac{1}{2}$	1-71-18-5	The British American Oil Company Limited	\$ 100,100.80
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$	24-71-19-5	Imperial Oil Enterprises Ltd.	25,115.55
			\$ 125,216.35

CROWN RESERVES PURCHASED IN STURGEON LAKE SOUTH AREA

Description		Offer Accepted From:	Cash Purchase Price
W. $\frac{1}{2}$	3-69-21-5	Uno-Tex Petroleum Corporation	\$ 16,400.00
E. $\frac{1}{2}$	4-69-21-5	Uno-Tex Petroleum Corporation	33,700.00
			\$ 50,100.00

CROWN RESERVES PURCHASED IN SWAN HILLS AREA

Description		Offer Accepted From:	Cash Purchase Price
N. $\frac{1}{2}$ & S.W. $\frac{1}{4}$ 28 & E. $\frac{1}{2}$	29-68-9-5	Texaco Exploration Company	\$ 301,578.88
Sec.	32-68-9-5	Texaco Exploration Company	182,689.79
Sec.	33-68-9-5	Tenneco Oil Company	169,000.00
N.W. $\frac{1}{4}$ 13 & N.E. $\frac{1}{4}$	14-65-10-5	DeKalb Agricultural Association, Inc.	64,670.00
S. $\frac{1}{2}$	34-64-11-5	Imperial Oil Enterprises Ltd., Pan American Petroleum Corporation and The British American Oil Company Limited	52,800.00
W. $\frac{1}{2}$	17-65-9-5	Pan American Petroleum Corporation	18,051.00
Sec.	26-67-9-5	Socony Mobil Oil of Canada, Ltd. and The Atlantic Refining Company	64,064.00
Sec.	13-68-9-5	The British American Oil Company Limited	214,523.85
Sec.	34-68-9-5	The British American Oil Company Limited	214,523.85
E. $\frac{1}{2}$	35-65-10-5	Pan American Petroleum Corporation and The British American Oil Company Limited	64,773.00
N. $\frac{1}{2}$ & S.W. $\frac{1}{4}$	36-65-10-5	Pan American Petroleum Corporation and The British American Oil Company Limited	120,341.00
E. $\frac{1}{2}$	2-66-10-5	Pan American Petroleum Corporation and The British American Oil Company Limited	17,733.00
W. $\frac{1}{2}$	9-66-10-5	Imperial Oil Limited	117,244.00

CROWN RESERVES PURCHASED IN SWAN HILLS AREA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 15-68-11-5	Canadian Kewanee Limited, Medallion Petroleum Limited, Apache Oil Corporation and Brinkerhoff Drilling Co. Ltd.	\$ 51,111.12
Sec. 27-67-9-5	The Atlantic Refining Company	240,529.00
Sec. 31-68-9-5 & S. 1/2 6-69-9-5	Texaco Exploration Company and Texaco Canada Limited	103,555.26
W. 1/2 35-65-10-5	Imperial Oil Developments Limited	80,515.00
Sec. 1-66-10-5	The Atlantic Refining Company	34,317.00
W. 1/2 2-66-10-5	Imperial Oil Developments Limited	80,515.00
S. 1/2 3-66-10-5	Imperial Oil Developments Limited	128,685.00
Sec. 18-67-8-5	Pan American Petroleum Corporation	32,326.00
W. 1/2 7-66-9-5	Home Oil Company Limited	25,625.00
Sec. 1-67-9-5	Pan American Petroleum Corporation	51,526.00
Sec. 2-67-9-5	The Atlantic Refining Company	130,845.00
Sec. 11-67-9-5	The Atlantic Refining Company	147,389.00
Sec. 12-67-9-5	Pan American Petroleum Corporation	96,326.00
N. 1/2 36-68-10-5 & S. 1/2 1-69-10-5	Regent Refining (Canada) Limited	14,720.00
		<u>\$ 2,819,976.75</u>

CROWN RESERVES PURCHASED IN SYLVIA AREA

Description	Offer Accepted From:	Cash Purchase Price
W. 1/2 14 & S.W. 1/4 23-73-5-5	Imperial Oil Developments Limited	\$ 493,783.00
E. 1/2 15 & S.E. 1/4 22-73-5-5	Hudson's Bay Oil and Gas Company Limited	666,000.00
		<u>\$ 1,159,783.00</u>

CROWN RESERVES PURCHASED IN UTIKUMA LAKE AREA

Description	Offer Accepted From:	Cash Purchase Price
S.W. 1/4 18-81-8-5	The Atlantic Refining Company	\$ 8,331.00
W. 1/2 19 & W. 1/2 30-81-8-5	The Atlantic Refining Company	164,831.00
N. 1/2 10-81-9-5	The Atlantic Refining Company	16,520.00
Sec. 13-81-9-5	The Atlantic Refining Company	32,979.00
Sec. 14-81-9-5	The Atlantic Refining Company	32,979.00
Sec. 1-82-9-5	The Atlantic Refining Company and Imperial Oil Enterprises Ltd.	113,528.00
E. 1/2 12-82-9-5	The Atlantic Refining Company and Imperial Oil Enterprises Ltd.	44,130.00
		<u>\$ 413,298.00</u>

CROWN RESERVES PURCHASED IN VIRGINIA HILLS AREA

Description	Offer Accepted From:	Cash Purchase Price
E. 1/2 6-65-12-5	The Atlantic Refining Company	\$ 11,498.00
S. 1/2 & N.W. 1/4 7-65-12-5	Apache Oil Corporation and Canadian Export Gas & Oil Ltd.	51,530.00
N. 1/2 13-64-13-5	The Atlantic Refining Company	11,498.00
E. 1/2 12-65-13-5	The Atlantic Refining Company	11,497.00
Sec. 13-65-13-5	Apache Oil Corporation and Canadian Export Gas & Oil Ltd.	50,920.00
Sec. 23-65-13-5	Pan American Petroleum Corporation	81,318.00
Sec. 26-65-14-5	Bass Explorations, Inc., Supertest Petroleum Corporation, Limited and United States Smelting, Refining and Mining Company	64,057.00
Sec. 35-65-14-5	Bass Explorations, Inc., Supertest Petroleum Corporation, Limited and United States Smelting, Refining and Mining Company	9,657.00
		<u>\$ 291,975.00</u>

CROWN RESERVES PURCHASED IN WILLESDEN GREEN AREA

Description	Offer Accepted From:	Cash Purchase Price
Sec. 25-42-7-5	Texaco Exploration Company and Texaco Canada Limited	\$ 90,500.00
N.E. 1/4 26-42-7-5	Texaco Exploration Company and Texaco Canada Limited	22,600.00
Sec. 34-42-7-5	Ashland Oil & Refining Company	32,807.00
		<u>\$ 145,907.00</u>

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

Description	Offer Accepted From:	Cash Purchase Price
W. $\frac{1}{2}$ 6-38-2-5	Canadian Superior Oil Ltd.	\$ 24,033.00
N. $\frac{1}{2}$ 11-38-2-5	Kerr-McGee Oil Industries, Inc. and Tenneco Oil Company	20,160.00
W. $\frac{1}{2}$ 12-38-2-5 (Except Natural Gas in Glauconitic Sandstone, Lower Mannville and Pekisko Zones)	Kerr-McGee Oil Industries, Inc. and Tenneco Oil Company	6,720.00
N.E. $\frac{1}{4}$ 29-34-3-5	Western Minerals Ltd.	2,013.77
Sec. 24-37-3-5	Texaco Exploration Company	38,435.65
N.E. $\frac{1}{4}$ 26-37-3-5	Hudson's Bay Oil and Gas Company Limited	25,112.12
Sec. 4-38-3-5 (Except Natural Gas in Basal Blairmore and Elkton Zones)	The Calgary & Edmonton Corporation Limited	7,110.00
W. $\frac{1}{2}$ 6-37-4-5 (Except Natural Gas in Lower Mannville and Jurassic Zones)	Triad Oil Co. Ltd.	12,832.22
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$ 7-38-4-5	Canadian Pacific Oil and Gas Limited	17,760.00
Sec. 33-38-4-5 (Except Natural Gas in Lower Mannville Zone)	Apache Oil Corporation	66,560.00
W. $\frac{1}{2}$ 3, Sec. 4, S. $\frac{1}{2}$ 9 & S.W. $\frac{1}{4}$ 10-39-4-5 (Except Natural Gas in Lower Mannville Zone)	Brinkerhoff Drilling Co. Ltd., Dea Oil of Canada Ltd. and Fargo Oils Ltd.	91,519.20
Sec. 21-72-4-5	Socony Mobil Oil of Canada, Ltd.	1,200,123.45
Sec. 33-72-4-5	Security Freehold Petroleum Limited	256,100.00
E. $\frac{1}{2}$ 33 & W. $\frac{1}{2}$ 34-85-4-5	Western Minerals Ltd.	17,927.77
Sec. 2-36-7-5	The Calgary & Edmonton Corporation Limited, Skelly Oil Company and Canadian Superior Oil Ltd.	39,430.40
E. $\frac{1}{2}$ 5-42-7-5 (Except Natural Gas in Basal Quartz Sandstone Zone)	Amerada Petroleum Corporation	10,339.00
Sec. 25 & N.E. $\frac{1}{4}$ 26-37-8-5	Canada Permanent Trust Company	70,267.23
Sec. 11-66-9-5	Western Minerals Ltd.	20,002.79
Sec. 13-66-9-5	Western Minerals Ltd.	20,002.79
S. $\frac{1}{2}$ 14-66-9-5	Western Minerals Ltd.	10,002.79
Sec. 24-68-9-5	Pan American Petroleum Corporation	212,000.00
S. $\frac{1}{2}$ & N.E. $\frac{1}{4}$ 5-69-9-5	Pan American Petroleum Corporation	60,500.00
N.W. $\frac{1}{4}$ 20, W. $\frac{1}{2}$ 29 & S.E. $\frac{1}{4}$ 31-69-9-5	Murphy Oil Company Ltd. and Shell Canada Limited	462,720.00
Sec. 19-77-9-5	Royalite Oil Company, Limited	21,164.80
Sec. 12-78-9-5	Skelly Oil Company	73,696.00
W. $\frac{1}{2}$ 33-81-9-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	33,018.00
E. $\frac{1}{2}$ 36-81-9-5	Whitehall Canadian Oils Ltd. and Westburne Oil Development Limited	21,000.00
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$ 26-87-9-5	Numac Oil & Gas Ltd. and Uno-Tex Petroleum Corporation	31,738.00
E. $\frac{1}{2}$ 34-87-9-5	Whitehall Canadian Oils Ltd. and Westburne Oil Development Limited	9,600.00
S. $\frac{1}{2}$ 16 & S. $\frac{1}{2}$ 17-38-10-5	Canada Permanent Trust Company	72,403.20
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$ 18-60-10-5	The British American Oil Company Limited	38,496.00
E. $\frac{1}{2}$ 33 & W. $\frac{1}{2}$ 34-76-10-5	Texaco Canada Limited and Texaco Exploration Company	25,822.52
N. $\frac{1}{2}$ 36-76-10-5 & S. $\frac{1}{2}$ 1-77-10-5	Texaco Canada Limited and Texaco Exploration Company	35,330.72
N.E. $\frac{1}{4}$ 9, S. $\frac{1}{2}$ 15 & S.E. $\frac{1}{4}$ 16-60-11-5	The British American Oil Company Limited	32,102.40
N.W. $\frac{1}{4}$ 21 & W. $\frac{1}{2}$ 28-60-11-5	Pan American Petroleum Corporation	17,400.00
S.E. $\frac{1}{4}$ 1-70-11-5	The California Standard Company and Standard Oil Company of British Columbia Limited	205,125.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
N.W. $\frac{1}{4}$ 24 & E. $\frac{1}{2}$ 25-70-12-5	Whitehall Canadian Oils Ltd. and Westburne Oil Development Limited	\$ 105,250.00
N. $\frac{1}{2}$ 13 & S.W. $\frac{1}{4}$ 24-73-12-5	Imperial Oil Enterprises Ltd.	13,513.67
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$ 19-79-12-5	Home Oil Company Limited	14,935.00
E. $\frac{1}{2}$ 22 & W. $\frac{1}{2}$ 23-46-14-5	Hudson's Bay Oil and Gas Company Limited	32,088.88
W. $\frac{1}{2}$ 2 & E. $\frac{1}{2}$ 3-47-14-5	Hudson's Bay Oil and Gas Company Limited	32,088.88
Sec. 34-53-14-5 & Sec. 3-54-14-5	Triad Oil Co. Ltd. and Devon-Palmer Oils Ltd.	32,640.22
Sec. 12-73-14-5	The Atlantic Refining Company and The Calgary & Edmonton Corporation Limited	21,460.00
S. $\frac{1}{2}$ & N.E. $\frac{1}{4}$ 13-47-15-5	Uno-Tex Petroleum Corporation	25,440.00
S. $\frac{1}{2}$ 14 & S. $\frac{1}{2}$ 15-47-15-5	Uno-Tex Petroleum Corporation	14,080.00
Sec. 7-72-15-5	Texaco Exploration Company	31,245.66
Sec. 1-74-15-5	The Atlantic Refining Company and The Calgary & Edmonton Corporation Limited	21,460.00
Sec. 2-77-15-5	Skelly Oil Company	42,668.80
Sec. 31-59-16-5	Torena Oils Ltd.	20,160.00
Sec. 30-63-16-5	The California Standard Company	73,600.00
Sec. 33-63-16-5	The California Standard Company	73,600.00
N. $\frac{1}{2}$ & S.W. $\frac{1}{4}$ 36-73-16-5	The Atlantic Refining Company	9,499.00
Sec. 29-49-17-5	The Calgary & Edmonton Corporation Limited	45,894.00
Sec. 18-50-17-5	The Calgary & Edmonton Corporation Limited	66,579.00
Sec. 1-59-17-5	Torena Oils Ltd.	20,160.00
Sec. 26-59-17-5	Canadian Fina Oil Limited, Hudson's Bay Oil and Gas Company Limited and Pan American Petroleum Corporation	16,198.40
Sec. 21-67-17-5	Pan American Petroleum Corporation	66,100.00
Sec. 26-65-20-5	The Calgary & Edmonton Corporation Limited and Canadian Superior Oil Ltd.	18,099.00
Sec. 3-66-20-5	The Calgary & Edmonton Corporation Limited and Canadian Superior Oil Ltd.	18,099.00
E. $\frac{1}{2}$ 12 & E. $\frac{1}{2}$ 13-59-21-5	Canadian Superior Oil Ltd.	25,633.00
Sec. 22-64-21-5	Placid Oil Company	76,343.10
Sec. 17-72-21-5	Pan American Petroleum Corporation	23,200.00
Sec. 18-72-21-5	Texaco Canada Limited and Texaco Exploration Company	19,303.38
Sec. 25-72-21-5	Socony Mobil Oil of Canada, Ltd.	25,678.00
Sec. 36-65-22-5	Uno-Tex Petroleum Corporation	42,240.00
Sec. 24-66-22-5	Canadian Superior Oil Ltd.	38,433.00
Sec. 31-73-22-5	Monsanto Oils Ltd. and Monsanto Company	6,450.00
Sec. 34-73-22-5	Socony Mobil Oil of Canada, Ltd.	9,660.00
N. $\frac{1}{2}$ & S.W. $\frac{1}{4}$ 35-73-22-5	Socony Mobil Oil of Canada, Ltd.	7,270.00
Sec. 12-74-22-5	Socony Mobil Oil of Canada, Ltd.	16,060.00
Sec. 35-72-23-5	Amerada Petroleum Corporation	41,888.00
Sec. 22-62-24-5	The Calgary & Edmonton Corporation Limited	10,342.00
Sec. 36-60-25-5	Transalta Minerals Ltd.	9,671.00
N. $\frac{1}{2}$ 5 & S. $\frac{1}{2}$ 8-87-25-5	The Calgary & Edmonton Corporation Limited	10,342.00
Sec. 8-64-1-6	Hudson's Bay Oil and Gas Company Limited	64,311.15
Sec. 4-65-1-6	Montreal Trust Company	30,850.00
W. $\frac{1}{2}$ 21 & S.E. $\frac{1}{4}$ 29-67-5-6	Shell Canada Limited	79,200.00
W. $\frac{1}{2}$ & N.E. $\frac{1}{4}$ 30-67-5-6	Shell Canada Limited	35,200.00
S. $\frac{1}{2}$ 26 & S.E. $\frac{1}{4}$ 25-67-6-6	Shell Canada Limited	52,800.00
Sec. 27-67-6-6	Shell Canada Limited	52,800.00
Sec. 21-69-7-6	Texaco Canada Limited	13,292.80
Sec. 27-69-7-6	Texaco Canada Limited	19,692.80
N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$ 36-73-11-6 & S.W. $\frac{1}{4}$ 1-74-11-6	The California Standard Company, Standard Oil Company of British Columbia Limited and The British American Oil Company Limited	28,920.20
N. $\frac{1}{2}$ 14, N.E. $\frac{1}{4}$ 15, S.E. $\frac{1}{4}$ 22 & S. $\frac{1}{2}$ 23-74-11-6	The California Standard Company, Standard Oil Company of British Columbia Limited and The British American Oil Company Limited	11,120.20
N.W. $\frac{1}{4}$ of Fractional 9 & W. $\frac{1}{2}$ of Fractional 16-85-13-6	Scurry-Rainbow Oil Limited	21,000.00
S.W. $\frac{1}{4}$ 13-6-1-5	Imperial Oil Enterprises Ltd.	3,275.00
S. $\frac{1}{2}$ 24-6-1-5	Imperial Oil Enterprises Ltd.	6,527.75

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 20-31-1-5 (Except Natural Gas in the Wabamun Zone)	Amerada Petroleum Corporation	\$ 16,216.00
Sec. 14-47-1-5	James Morris Forgotson and Lysle Simpson Burk	8,307.20
S. 1/2 36-47-1-5	James Morris Forgotson and Lysle Simpson Burk	4,083.20
Sec. 12-43-1-5	James Morris Forgotson and Lysle Simpson Burk	8,108.80
Sec. 10-67-1-5	Uno-Tex Petroleum Corporation and Sifto Salt (1960) Limited	7,168.00
N.W. 1/4 13 & Lcc. 14-67-1-5	Uno-Tex Petroleum Corporation, Sifto Salt (1960) Limited and The Calgary & Edmonton Corporation Limited	8,960.00
N. 1/2 16 & N. 1/2 17-67-1-5	Uno-Tex Petroleum Corporation and Sifto Salt (1960) Limited	7,168.00
W. 1/2 30-14-2-5	Socony Mobil Oil of Canada, Ltd.	12,118.40
Sec. 31-14-2-5	Socony Mobil Oil of Canada, Ltd.	24,236.80
W. 1/2 6-15-2-5	Socony Mobil Oil of Canada, Ltd.	12,118.40
Sec. 7-15-2-5	Socony Mobil Oil of Canada, Ltd.	24,428.80
Sec. 18-15-2-5	Socony Mobil Oil of Canada, Ltd.	24,492.80
Sec. 34-30-2-5	Triad Oil Co. Ltd. and Uno-Tex Petroleum Corporation	67,219.22
S. 1/2 2-31-2-5	Socony Mobil Oil of Canada, Ltd.	9,769.60
Sec. 24-31-2-5	Amerada Petroleum Corporation	64,339.00
Sec. 29-48-2-5	Rulair Oil Ltd.	7,059.23
E. 1/2 32 & W. 1/2 33-72-2-5	The British American Oil Company Limited	50,066.01
Sec. 12-35-3-5	Union Oil Company of Canada Limited	12,800.00
N. 1/2 34-35-3-5	Teck Corporation Limited, Royalite Oil Company, Limited and Mule Creek Oil Company, Inc.	8,656.56
S. 1/2 2-36-3-5	Imperial Oil Enterprises Ltd.	8,245.50
Sec. 32-36-3-5 (Except Natural Gas in the Lower Mannville and Rundle Zones)	DeKalb Agricultural Association, Inc.	16,550.00
W. 1/2 30-47-3-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	63,580.00
N. 1/2 34-48-3-5	Kerr-McGee Oil Industries, Inc.	9,120.00
S. 1/2 2-49-3-5	Kerr-McGee Oil Industries, Inc.	7,520.00
Sec. 10-49-3-5	The Calgary & Edmonton Corporation Limited	12,040.00
Sec. 16-49-3-5	Canada-Cities Service Petroleum Corporation	8,083.20
S. 1/2 20-69-3-5	Western Decalta Petroleum Limited, Canadian Fortune Oil Ltd., Prairie Oil Royalties Company, Ltd. and Westburne Oil Development Limited	103,560.00
Sec. 21-69-3-5	Western Decalta Petroleum Limited, Canadian Fortune Oil Ltd., Prairie Oil Royalties Company, Ltd. and Westburne Oil Development Limited	20,680.00
Sec. 33-69-3-5	Western Minerals Ltd.	16,000.00
N. 1/2 10 & S. 1/2 15-70-3-5	Skelly Oil Company	65,363.20
N. 1/2 11 & S. 1/2 14-70-3-5	Tenneco Oil Company	16,111.00
E. 1/2 24 & E. 1/2 25-35-4-5 (Except Natural Gas in the Leduc Zone)	The British American Oil Company Limited	19,398.42
N. 1/2 35 & N. 1/2 36-36-4-5 (Except Natural Gas in the Lower Mannville Zone in the N. 1/2 35 & N.E. 1/4 36)	DeKalb Agricultural Association, Inc.	16,550.00
N.E. 1/4 28-38-4-5 (Except Natural Gas in the Lower Mannville Zone)	Apache Oil Corporation	21,280.00
N.W. 1/4 29 & N. 1/2 & S.W. 1/4 30-38-4-5 (Except Natural Gas in the Lower Mannville Zone)	Brinkerhoff Drilling Co. Ltd. and Fargo Oils Ltd.	188,714.70
N. 1/2 5-39-4-5	Fargo Oils Ltd.	120,358.40
S. 1/2 & N.W. 1/4 7-39-4-5	Taurus Oil Co. Ltd. and Murphy Oil Company Ltd.	103,228.00
W. 1/2 18-39-4-5	Taurus Oil Co. Ltd. and Murphy Oil Company Ltd.	27,798.40
E. 1/2 25 & E. 1/2 36-47-4-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	175,684.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 14-70-4-5	Imperial Oil Limited	\$ 241,285.75
E. 1/2 24-70-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	651,222.00
E. 1/2 25-70-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	711,023.00
Sec. 33-70-4-5	Imperial Oil Limited	241,285.75
N. 1/2 34-70-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	563,056.00
N. 1/2 35-70-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	712,111.00
W. 1/2 4-72-4-5	The California Standard Company	733,333.00
W. 1/2 9-72-4-5	The California Standard Company	841,124.00
N. 1/2 15-72-4-5	Socony Mobil Oil of Canada, Ltd. and Union Oil Company of Canada Limited	220,000.00
N. 1/2 & S.W. 1/4 16-72-4-5	The California Standard Company	852,185.00
S. 1/2 22-72-4-5	Numac Oil & Gas Ltd., Whitehall Canadian Oils Ltd. and Northern Natural Gas Producing Company	109,000.00
W. 1/2 28-72-4-5	Numac Oil & Gas Ltd., Whitehall Canadian Oils Ltd. and Northern Natural Gas Producing Company	60,000.00
Sec. 13-76-4-5	Skelly Oil Company	35,564.80
Sec. 12-23-5-5	Imperial Oil Enterprises Ltd.	16,350.00
S. 1/2, L.S.'s 9 to 13 incl. & L.S. 16		
Sec. -14-23-5-5	Imperial Oil Enterprises Ltd.	14,285.00
Sec. 34-34-5-5 (Except Natural Gas in the Viking Zone)		
Sec. 35-34-5-5 Except Natural Gas in the Viking Zone)	Hudson's Bay Oil and Gas Company Limited	48,111.11
Sec. 10-38-5-5	Western Minerals Ltd.	10,246.66
Sec. 3-63-5-5	Texaco Exploration Company	35,200.00
Sec. 7-64-5-5	Arkansas Fuel and Minerals Ltd.	17,634.00
Sec. 1-77-5-5	Texaco Exploration Company	20,500.00
Sec. 24 & S.W. 1/4 25-24-6-5	Texaco Exploration Company	22,400.00
N.E. 1/4 26 & S. 1/2 & N.W. 1/4 35-24-6-5	Shell Canada Limited and Canadian Pacific Oil and Gas Limited	26,180.80
W. 1/2 2 & Sec. 10-25-6-5	Shell Canada Limited and Canadian Pacific Oil and Gas Limited	96,180.80
Sec. 34-38-6-5	Texaco Exploration Company	180,180.80
N. 1/2 17-61-6-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	28,800.00
Sec. 1-63-6-5	Imperial Oil Enterprises Ltd.	6,561.00
E. 1/2 31-52-7-5	Imperial Oil Enterprises Ltd.	13,615.00
Sec. 13-65-7-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	5,120.00
Sec. 10-77-7-5	Texaco Exploration Company, Aquitaine Company of Canada Ltd. and Banff Oil Ltd.	32,000.00
E. 1/2 23 & W. 1/2 24-32-8-5	The California Standard Company	33,012.28
E. 1/2 26-32-8-5	Canadian Superior Oil Ltd.	24,013.00
Sec. 36-33-8-5	Imperial Oil Enterprises Ltd.	9,866.00
N. 1/2 35 & N. 1/2 36-43-8-5	Imperial Oil Enterprises Ltd.	19,799.75
S.W. 1/4 2-44-8-5	Canadian Homestead Oils Limited	10,377.13
Sec. 9-67-8-5	Canadian Homestead Oils Limited	2,617.33
Sec. 16-67-8-5	DeKalb Agricultural Association, Inc., Dome Petroleum Limited and Provo Gas Producers Limited	284,350.00
Sec. 21-67-8-5	DeKalb Agricultural Association, Inc., Dome Petroleum Limited and Provo Gas Producers Limited	249,350.00
Sec. 22-67-8-5	DeKalb Agricultural Association, Inc., Dome Petroleum Limited and Provo Gas Producers Limited	239,350.00
	DeKalb Agricultural Association, Inc., Dome Petroleum Limited and Provo Gas Producers Limited	294,350.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 24-76-8-5	Home Oil Company Limited	\$ 16,150.00
Sec. 36-76-8-5	Canadian Superior Oil Ltd.	32,640.00
Sec. 18-78-8-5	Union Oil Company of Canada Limited	80,000.00
N. 1/2 33 & N. 1/2 34-44-9-5	Dome Petroleum Limited and Provo Gas Producers Limited	16,600.00
S. 1/2 2-45-9-5	Dome Petroleum Limited and Provo Gas Producers Limited	4,880.00
S. 1/2 3 & S. 1/2 4-45-9-5	Dome Petroleum Limited and Provo Gas Producers Limited	10,880.00
E. 1/2 2-64-9-5	Aquitaine Company of Canada Ltd. and Banff Oil Ltd.	7,200.00
W. 1/2 22-65-9-5	Pan American Petroleum Corporation	18,051.00
Sec. 36-66-9-5	The British American Oil Company Limited	48,669.42
N. 1/2 22-51-11-5	Ranger Oil (Canada) Limited	41,000.00
Sec. 28-51-11-5	Ranger Oil (Canada) Limited	26,000.00
S. 1/2 6-53-11-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	10,320.00
E. 1/2 9 & W. 1/2 10-54-11-5	Imperial Oil Enterprises Ltd.	13,265.65
S. 1/2 & N.E. 1/4 23-54-11-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	10,320.00
N. 1/2 19 & S.W. 1/4 30-70-11-5	Whitehall Canadian Oils Ltd. and Westburne Oil Development Limited	350,090.00
S.W. 1/4 20-70-11-5	Pan American Petroleum Corporation	49,665.00
SW. 1/4 29-70-11-5	Denison Mines Limited	150,099.10
N. 1/2 & S.W. 1/4 32-70-11-5	Denison Mines Limited	310,099.10
Sec. 14-78-11-5	Texaco Exploration Company	28,700.00
N. 1/2 3 & S. 1/2 10-79-11-5	The California Standard Company	20,462.56
N. 1/2 4-54-12-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	5,220.00
N. 1/2 & S.W. 1/4 23-55-12-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, Consolidated East Crest Oil Company Limited, New Continental Oil Company of Canada Limited, Westburne Oil Development Limited, Ashland Oil & Refining Company and The Petrol Oil & Gas Company, Limited (No Personal Liability)	8,160.00
E. 1/2 29-65-12-5	Home Oil Company Limited	48,822.00
W. 1/2 32-65-12-5	Home Oil Company Limited	48,822.00
Sec. 23-70-12-5	Pan American Petroleum Corporation	72,660.00
N.E. 1/4 & S.W. 1/4 24-70-12-5	The California Standard Company and Standard Oil Company of British Columbia Limited	62,383.00
W. 1/2 36-70-12-5	Whitehall Canadian Oils Ltd. and Westburne Oil Development Limited	51,000.00
Sec. 14-77-12-5	Union Oil Company of Canada Limited	25,600.00
N. 1/2 15 & S. 1/2 22-86-12-5	Texaco Exploration Company	11,200.00
S. 1/2 5-53-13-5	Imperial Oil Enterprises Ltd.	8,298.70
W. 1/2 7-53-13-5	Imperial Oil Enterprises Ltd.	11,505.00
N. 1/2 21-54-13-5	The Calgary & Edmonton Corporation Limited and Canadian Superior Oil Ltd.	6,880.00
Sec. 9-66-13-5	The British American Oil Company Limited	115,052.80
Sec. 21-66-14-5	Northern Natural Gas Producing Company and Taurus Oil Co. Ltd.	80,000.00
Sec. 19-63-16-5	Texaco Exploration Company	91,000.00
Sec. 32-63-16-5	The British American Oil Company Limited	83,379.20
Sec. 23-65-17-5	Pan American Petroleum Corporation	36,007.00
S.W. 1/4 6-67-18-5	Imperial Oil Limited	25,355.50
Sec. 36-60-19-5	Monsanto Oils Ltd. and Monsanto Company	38,520.00
Sec. 17-66-19-5	Texaco Exploration Company	55,500.00
W. 1/2 1-67-19-5	Triad Oil Co. Ltd. and Devon-Palmer Oils Ltd. (No Personal Liability)	44,812.82
E. 1/2 1-67-19-5	Imperial Oil Limited	32,450.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
N. $\frac{1}{2}$ 33-67-19-5 & S.W. $\frac{1}{4}$ 4-68-19-5 S. $\frac{1}{2}$ 29 & S.E. $\frac{1}{4}$ 80-69-19-5	The British American Oil Company Limited	\$ 72,072.00
N. $\frac{1}{2}$ 36-69-20-5	Texaco Canada Limited and Amerada Petroleum Corporation	34,560.00
N. $\frac{1}{2}$ 21 & S. $\frac{1}{2}$ 28-71-20-5	Texaco Canada Limited and Amerada Petroleum Corporation	13,440.00
Sec. 1-65-22-5	Sinclair Canada Oil Company, Pacific Petroleum Ltd. and Bailey Selburn Oil & Gas Ltd.	22,407.77
Sec. 17-65-22-5	The Atlantic Refining Company	22,982.00
Sec. 32-65-22-5	Royalite Oil Company, Limited	28,864.00
W. $\frac{1}{2}$ 7-73-23-5	Socony Mobil Oil of Canada, Ltd.	32,035.00
W. $\frac{1}{2}$ 26 & E. $\frac{1}{2}$ 27-74-23-5	DeKalb Agricultural Association, Inc.	21,670.00
E. $\frac{1}{2}$ 16-75-23-5	Texaco Exploration Company	22,400.00
W. $\frac{1}{2}$ 17-75-23-5	Devon-Palmer Oils Ltd. (No Personal Liability) and French Petroleum Company of Canada Ltd.	8,012.84
Sec. 2-90-23-5	Devon-Palmer Oils Ltd. (No Personal Liability) and French Petroleum Company of Canada Ltd.	8,012.84
Sec. 13-57-24-5	Union Oil Company of Canada Limited	6,400.00
Sec. 3-55-25-5	McArthur Land Consultants Ltd.	35,644.77
Sec. 7-67-25-5	McArthur Land Consultants Ltd.	21,111.11
Sec. 34-63-26-5	The Atlantic Refining Company	8,848.00
Sec. 18-65-26-5	The Atlantic Refining Company	80,122.00
Sec. 32-65-26-5	Sun Oil Company	19,840.00
Sec. 36-65-27-5	Canadian Superior Oil Ltd.	32,013.00
Sec. 12-66-27-5	Canadian Superior Oil Ltd.	32,013.00
E. $\frac{1}{2}$ 1-64-1-6	Socony Mobil Oil of Canada, Ltd.	25,616.00
Sec. 28-65-3-6	Sun Oil Company	11,520.00
W. $\frac{1}{2}$ 28 & E. $\frac{1}{2}$ 29-63-4-6	Torena Oils Ltd.	41,627.33
N. $\frac{1}{2}$ 34-63-4-6	Montreal Trust Company	35,367.00
S. $\frac{1}{2}$ 3 & S. $\frac{1}{2}$ 4-64-4-6	Regent Refining (Canada) Limited, French Petroleum Company of Canada Ltd. and Bailey Selburn Oil & Gas Ltd.	24,000.00
Sec. 6-65-4-6	Montreal Trust Company	35,367.00
Sec. 18-65-4-6	Sun Oil Company	26,240.00
Sec. 14-64-5-6	Sun Oil Company	26,240.00
Sec. 8-65-6-6	Texaco Exploration Company	22,400.00
S. $\frac{1}{2}$ & N.E. $\frac{1}{4}$ 1-60-10-6	Royalite Oil Company, Limited	19,264.00
E. $\frac{1}{2}$ 12-60-10-6	Imperial Oil Enterprises Ltd.	14,835.35
N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$ 13-60-10-6	Imperial Oil Enterprises Ltd.	9,788.00
N. $\frac{1}{2}$ 14-60-10-6	Imperial Oil Enterprises Ltd.	14,799.00
N. $\frac{1}{2}$ 15 & S. $\frac{1}{2}$ 22-60-10-6	Imperial Oil Enterprises Ltd.	9,773.50
N. $\frac{1}{2}$ 22-33-1-5	Imperial Oil Enterprises Ltd.	19,545.55
Sec. 28-33-1-5	Altair Oil & Gas Co.	3,779.60
E. $\frac{1}{2}$ 29-33-1-5	Altair Oil & Gas Co.	6,522.60
S. $\frac{1}{2}$ 14-72-2-5	Altair Oil & Gas Co.	3,260.80
Sec. 6-47-3-5	Western Minerals Ltd.	25,877.00
S. $\frac{1}{2}$ 19-47-3-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	41,780.00
N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$ 6-71-3-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	16,743.00
W. $\frac{1}{2}$ 9-47-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	508,502.00
N. $\frac{1}{2}$ 15-47-4-5	Dome Petroleum Limited, Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	42,895.00
S. $\frac{1}{2}$ & N.E. $\frac{1}{4}$ 24-47-4-5	Dome Petroleum Limited, Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	42,895.00
Sec. 28-64-4-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	219,356.00
	Texaco Exploration Company and Texaco Canada Limited	26,488.64

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA
(Continued)

Description Sec.		Offer Accepted From:	Cash Purchase Price
	13-70-4-5	Western Decalta Petroleum Limited, Ranger Oil (Canada) Limited, Spruce Hills Production Company, Inc., Camerina Petroleum Corporation, British Columbia Oil Lands Ltd. (Non Personal Liability), Yellowknife Bear Mines Limited, Pembina Pipe Line Ltd., Texfel Petroleum Corporation and H. W. Bass & Sons, Inc.	\$ 1,225,000.00
S.W. $\frac{1}{4}$ 3 & E. $\frac{1}{2}$	4-71-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	1,030,502.00
W. $\frac{1}{2}$	4-71-4-5	Socony Mobil Oil of Canada, Ltd.	372,000.00
S. $\frac{1}{2}$ & N.W. $\frac{1}{4}$	9-71-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	915,502.00
N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$	12-71-4-5	Sun Oil Company	816,000.00
N.E. $\frac{1}{4}$	32-71-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	209,502.00
Sec.	5-72-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	1,546,502.00
Sec.	6-72-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	1,609,502.00
E. $\frac{1}{2}$	8-72-4-5	The California Standard Company and Standard Oil Company of British Columbia Limited	954,502.00
N. $\frac{1}{2}$ 18, Sec. 19, Sec. 20 & S.W. $\frac{1}{4}$	30-72-4-5	The California Standard Company	5,551,502.00
N. $\frac{1}{2}$ & S.E. $\frac{1}{4}$	29-72-4-5	The California Standard Company	707,502.00
Sec.	32-72-4-5	The California Standard Company	757,502.00
Sec.	1-76-4-5	The Calgary & Edmonton Corporation Limited and Canadian Superior Oil Ltd.	16,260.00
Sec.	19-38-5-5	DeKalb Petroleum Corporation	9,300.00
Sec.	24-46-5-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (Non Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	33,820.00
Sec.	35-46-5-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	33,820.00
Sec.	4-47-5-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	44,820.00
Sec.	1-72-5-5	Western Decalta Petroleum Limited, Ranger Oil (Canada) Limited, Spruce Hills Production Company, Inc., Camerina Petroleum Corporation, British Columbia Oil Lands Ltd. (Non Personal Liability), Yellowknife Bear Mines Limited, Pembina Pipe Line Ltd., Texfel Petroleum Corporation and H. W. Bass & Sons, Inc.	1,225,000.00
Sec.	22-72-5-5	Western Decalta Petroleum Limited, Ranger Oil (Canada) Limited, Spruce Hills Production Company, Inc., Camerina Petroleum Corporation, British Columbia Oil Lands Ltd. (Non Personal Liability), Yellowknife Bear Mines Limited, Pembina Pipe Line Ltd., Texfel Petroleum Corporation and H. W. Bass & Sons, Inc.	1,225,000.00
Sec. 23, Sec. 24 & S.E. $\frac{1}{4}$	25-72-5-5	The California Standard Company	4,106,502.00
W. $\frac{1}{2}$	27-72-5-5	Western Decalta Petroleum Limited, Ranger Oil (Canada) Limited, Spruce Hills Production Company, Inc., Camerina Petroleum Corporation, British Columbia Oil Lands Ltd. (Non Personal Liability), Yellowknife Bear Mines Limited, Pembina Pipe Line Ltd., Texfel Petroleum Corporation and H. W. Bass & Sons, Inc.	644,000.00
E. $\frac{1}{2}$	28-72-5-5	The California Standard Company	453,502.00
N.W. $\frac{1}{4}$ 34-72-5-5 & S.W. $\frac{1}{4}$	3-73-5-5	The California Standard Company	769,502.00
N.E. $\frac{1}{4}$	3-73-5-5	Imperial Oil Developments Limited	368,222.00
S.W. $\frac{1}{4}$ 4 & S. $\frac{1}{2}$	5-73-5-5	The California Standard Company	1,064,502.00
E. $\frac{1}{2}$ 10 & W. $\frac{1}{2}$	11-73-5-5	Imperial Oil Developments Limited	1,600,566.00
W. $\frac{1}{2}$ 18 & S.W. $\frac{1}{4}$	19-73-5-5	Sun Oil Company	272,000.00
N.E. $\frac{1}{4}$ 19, N. $\frac{1}{2}$ 20, S. $\frac{1}{2}$ 29 & S.E. $\frac{1}{4}$	30-73-5-5	Imperial Oil Developments Limited	201,128.00
Sec.	19-85-5-5	The Calgary & Edmonton Corporation Limited	14,967.00
Sec.	7-77-6-5	Canada-Cities Service Petroleum Corporation	40,563.20
Sec.	10-66-7-5	Western Decalta Petroleum Limited and Prairie Oil Royalties Company, Ltd.	50,765.00
Sec.	5-77-7-5	Great Plains Development Company of Canada, Ltd.	51,535.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 15-77-7-5	The British American Oil Company Limited	\$ 83,283.20
Sec. 6-79-7-5	Socony Mobil Oil of Canada, Ltd.	83,333.33
S. 1/2 & N.W. 1/4		
18-81-7-5	The Calgary & Edmonton Corporation Limited	11,250.00
E. 1/2 9-64-8-5	Sun Oil Company	11,520.00
Sec. 23-68-8-5	The Calgary & Edmonton Corporation Limited	40,624.00
Sec. 26-68-8-5	Canadian Superior Oil Ltd.	32,031.00
Sec. 13-78-8-5	Uno-Tex Petroleum Corporation	86,592.00
Sec. 26-78-8-5	Socony Mobil Oil of Canada, Ltd.	96,333.33
E. 1/2 13-79-8-5	Hamilton Brothers Canadian Gas Company Ltd.	48,960.00
S. 1/2 & N.W. 1/4		
29-79-8-5	Hamilton Brothers Canadian Gas Company Ltd.	63,840.00
N. 1/2 & S.E. 1/4		
1-80-8-5	Uno-Tex Petroleum Corporation	51,178.00
Sec. 31-85-8-5	Canadian Superior Oil Ltd.	22,431.00
Sec. 13-67-9-5	Pan American Petroleum Corporation	44,838.00
Sec. 24-67-9-5	Pan American Petroleum Corporation	35,238.00
Sec. 36-67-9-5	The Atlantic Refining Company	144,578.00
Sec. 1-68-9-5	The Atlantic Refining Company	144,578.00
W. 1/2 4 & E. 1/2		
5-81-9-5	The Atlantic Refining Company	22,687.00
Sec. 27-84-9-5	Canadian Superior Oil Ltd.	32,031.00
Sec. 31-72-10-5	Texaco Canada Limited	14,788.00
Sec. 14-75-10-5	Imperial Oil Enterprises Ltd.	25,850.00
N. 1/2 14 & S. 1/2		
23-76-10-5	Imperial Oil Enterprises Ltd.	29,066.00
N. 1/2 21 & S. 1/2		
28-43-11-5	Sun Oil Company	26,240.00
N. 1/2 & S.W. 1/4 7 &		
S. 1/2 18-44-11-5	Tenneco Oil Company	28,250.00
S. 1/2 6-70-11-5	Pan American Petroleum Corporation	33,726.00
Sec. 8-70-11-5	The British American Oil Company Limited	67,267.20
Sec. 22-72-11-5	The Calgary & Edmonton Corporation Limited	17,106.00
W. 1/2 13 & E. 1/2		
14-73-11-5	Texaco Canada Limited	26,248.00
Sec. 15-78-11-5	Imperial Oil Enterprises Ltd.	35,457.75
E. 1/2 27-78-11-5	Muskeg Oil Company	20,844.00
Sec. 3-43-12-5	Tenneco Oil Company	6,450.00
Sec. 21-50-12-5	Sun Oil Company	42,240.00
Sec. 26-51-12-5	Western Decalta Petroleum Limited	16,750.00
W. 1/2 11-70-12-5	Pan American Petroleum Corporation	56,358.00
Sec. 14-76-13-5	Texaco Exploration Company	21,548.10
S. 1/2 & N.W. 1/4 17 &		
S.W. 1/4 20-69-14-5	Imperial Oil Enterprises Ltd.	49,580.50
S. 1/2 & N.W. 1/4		
19-69-14-5	Imperial Oil Enterprises Ltd.	37,165.50
Sec. 30-52-15-5	Home Oil Company Limited and Hudson's Bay Oil and Gas Company Limited	32,640.00
S. 1/2 2-95-15-5	Western Decalta Petroleum Limited	9,236.00
Sec. 10-95-15-5	Western Minerals Ltd.	18,027.00
N. 1/2 5 & S.W. 1/4		
8-52-16-5	Home Oil Company Limited	19,200.00
N. 1/2 35-52-16-5 &		
Sec. 2-53-16-5	Sinclair Canada Oil Company	74,239.00
E. 1/2 24 & E. 1/2		
25-59-16-5	Hamilton Brothers Canadian Gas Company Ltd.	6,421.00
Sec. 28-49-18-5	Crown Trust Company	104,131.00
Sec. 33-49-18-5	Crown Trust Company	104,131.00
Sec. 13-67-18-5	Sun Oil Company	64,640.00
N. 1/2 31-67-19-5	Texaco Exploration Company	10,891.89
Sec. 20-69-19-5	Western Minerals Ltd.	8,377.00
Sec. 1-62-20-5		
(Except Natural Gas in the Viking, Cadomin and Swan Hills Zones)		
Sec. 36-67-20-5	Hudson's Bay Oil and Gas Company Limited and Union Oil Company of Canada Limited	25,487.87
E. 1/2 22 & W. 1/2	Sinclair Canada Oil Company	49,248.00
23-70-20-5	Texaco Canada Limited	34,222.00
W. 1/2 26 & E. 1/2		
27-70-20-5	Sinclair Canada Oil Company	28,250.00
N. 1/2 17-69-21-5	The Calgary & Edmonton Corporation Limited	13,897.60
Sec. 12-72-21-5	The Atlantic Refining Company	22,598.00
Sec. 15-72-21-5	The Atlantic Refining Company	19,309.00
N. 1/2 21-55-22-5	Imperial Oil Enterprises Ltd.	24,500.00
N. 1/2 34 & N. 1/2		
35-53-23-5	Imperial Oil Enterprises Ltd.	193,232.00
N. 1/2 16 & S. 1/2		
21-54-23-5	Imperial Oil Enterprises Ltd.	161,131.00
N. 1/2 17 & S. 1/2		
20-54-23-5	Imperial Oil Enterprises Ltd.	138,711.00
N. 1/2 & S.W. 1/4		
18-57-23-5	McArthur Land Consultants Ltd.	31,500.00
N. 1/2 35-63-23-5	Texaco Exploration Company	7,339.23

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 1-64-23-5	Texaco Exploration Company	\$ 17,788.84
Sec. 24-72-23-5	Canadian Kewanee Limited and Medallion Petroleums Limited	45,111.11
Sec. 29-72-23-5	Canadian Kewanee Limited and Medallion Petroleums Limited	35,111.11
N. 1/2 30 & S. 1/2 & N.W. 1/4	Home Oil Company Limited	32,000.00
Sec. 15-62-24-5	Sun Oil Company	16,640.00
Sec. 14-64-27-5	Home Oil Company Limited and Canadian Superior Oil Ltd.	76,800.00
N. 1/2 25-87-3-6	Texaco Exploration Company	10,378.38
N. 1/2 & S.W. 1/4	Texaco Exploration Company	15,567.57
Sec. 26-87-3-6	Sun Oil Company	14,080.00
Sec. 4-69-8-6	Sun Oil Company	10,560.00
S. 1/2 & N.E. 1/4	Montclair Oil Ltd.	9,680.00
Sec. 22-46-1-5	James Morris Forgotson and Lysle Simpson Burk	3,715.20
S. 1/2 24-48-1-5	Pan American Petroleum Corporation	10,460.00
Sec. 34-48-1-5	Imperial Oil Enterprises Ltd.	26,111.11
Sec. 14-26-2-5	Imperial Oil Enterprises Ltd.	29,135.00
Sec. 29-36-2-5	Montclair Oil Ltd.	6,668.00
Sec. 32-41-2-5	Canadian Pacific Oil and Gas Limited	12,396.80
Sec. 30-43-2-5	Ashland Oil & Refining Company	12,170.00
S. 1/4 18-45-2-5	Pan American Petroleum Corporation	13,020.00
E. 1/2 11-46-2-5	Midwest Oil Corporation	8,172.80
Sec. 18-50-2-5	Midwest Oil Corporation	11,360.00
Sec. 20-50-2-5	Midwest Oil Corporation	3,606.40
W. 1/2 30-50-2-5	New Continental Oil Company of Canada Limited	3,315.20
W. 1/2 12-27-3-5	New Continental Oil Company of Canada Limited	9,830.40
Sec. 4-28-3-5	New Continental Oil Company of Canada Limited	9,830.40
Sec. 6-28-3-5	Transalta Minerals Ltd.	5,111.00
N. 1/2 34-34-3-5	Transalta Minerals Ltd.	5,555.00
S. 1/4 4-35-3-5		
N.E. 1/4 16-42-3-5		
(Except Natural Gas in the Lower Mannville Zone)		
N.E. 1/4 26-43-3-5	Montclair Oil Ltd.	2,538.00
N. 1/2 2-46-3-5	Montclair Oil Ltd.	2,385.00
S. 1/2 24-50-3-5	Midwest Oil Corporation	8,796.00
S. 1/2 & N.W. 1/4		3,600.00
Sec. 14-69-3-5	The Atlantic Refining Company	24,829.00
Sec. 22-69-3-5	The Atlantic Refining Company	39,552.00
N. 1/2 & S.E. 1/4		
31-70-3-5	Standard Oil Company of British Columbia Limited	762,222.00
Sec. 32-70-3-5	Standard Oil Company of British Columbia Limited	331,111.00
N. 1/2 & S.E. 1/4	Canada-Cities Service Petroleum Corporation	160,924.80
N. 1/2 13-47-4-5		
N. 1/2 14-47-4-5	Western Decalta Petroleum Limited, New Brunswick Oilfields Limited, The Petrol Oil & Gas Company, Limited, (No Personal Liability) J. M. Huber Corporation and Fargo Oils Ltd.	26,120.00
S. 1/2 22 & S. 1/2		
23-47-4-5	Western Decalta Petroleum Limited, New Brunswick Oilfields Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation and Fargo Oils Ltd.	36,130.00
Sec. 14-56-4-5	The Calgary & Edmonton Corporation Limited	23,252.00
S. 1/2 5-62-4-5	Home Oil Company Limited	9,625.00
Sec. 15-70-4-5	Chieftain Development Co. Ltd. and Blue Crown Petroleums Ltd.	16,000.00
Sec. 28-70-4-5	Imperial Oil Developments Limited	161,444.00
E. 1/2 12-75-4-5	J. M. Huber Corporation	4,800.00
Sec. 26-75-4-5	J. M. Huber Corporation	19,200.00
E. 1/2 20-76-4-5	J. M. Huber Corporation	4,800.00
Sec. 9-47-5-5	Western Decalta Petroleum Limited, New Brunswick Oilfields, Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), J. M. Huber Corporation, Fargo Oils Ltd. and Dome Petroleum Limited	16,758.00
Sec. 15-63-5-5	Imperial Oil Enterprises Ltd.	32,527.00
Sec. 2-72-5-5	Standard Oil Company of British Columbia Limited, Western Decalta Petroleum Limited, Ranger Oil (Canada) Limited, Spruce Hills Production Com- pany, Inc., Camerina Petroleum Corporation, Bri- tish Columbia Oil Lands Ltd., Yellowknife Bear Mines Limited, Pembina Pipe Line Ltd., Texfel Petroleum Corporation, H. W. Bass & Sons, Inc. and Northern Securities Ltd.	810,672.00
Sec. 15-72-5-5	Hudson's Bay Oil and Gas Company Limited	370,000.00
E. 1/2 21-72-5-5	Chieftain Development Co. Ltd. and Blue Crown Petroleums Ltd.	45,000.00
S. 1/2 & N.W. 1/4		
25-30-6-5	Shell Canada Limited	18,661.47

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA (Continued)

Description	Offer Accepted From:	Cash Purchase Price
S. 1/2 12-31-6-5	Laurence Oil Co. Ltd.	\$ 10,560.00
N. 1/2, S.E. 1/4 & L.S.'s 3, 5 & 6-30-31-6-5	Montreal Trust Company	7,950.00
Sec. 14-32-6-5	Laurence Oil Co. Ltd.	8,975.00
S. 1/2 29-32-6-5	Laurence Oil Co. Ltd.	4,570.00
E. 1/2 3-33-6-5	Laurence Oil Co. Ltd.	3,727.01
N. 1/2 13 & S. 1/2 24-63-6-5	Amerada Petroleum Corporation	32,111.00
Sec. 3-64-6-5	Texaco Canada Limited	27,520.00
Sec. 27-31-7-5	Monsanto Oils Ltd. and Monsanto Company	19,850.00
Sec. 19-32-7-5	Canadian Superior Oil Ltd.	22,421.00
Sec. 23-32-7-5	Monsanto Oils Ltd. and Monsanto Company	26,350.00
Sec. 12-66-7-5	Supertest Investments and Petroleum Limited and J. M. Huber Corporation	32,025.60
S. 1/2 & N.W. 1/4 30-80-7-5	Montreal Trust Company	60,121.00
Sec. 35-80-7-5	Texaco Canada Limited	17,920.00
Sec. 22-33-8-5	Monsanto Oils Ltd. and Monsanto Company	16,850.00
Sec. 25-33-8-5	Monsanto Oils Ltd. and Monsanto Company	29,350.00
N. 1/2 21 & S. 1/2 28-65-8-5	The Calgary & Edmonton Corporation Limited	40,723.00
Sec. 4-67-8-5	DeKalb Petroleum Corporation, Dome Petroleum Limited and Provo Gas Producers Limited	31,550.00
Sec. 23-67-8-5	DeKalb Petroleum Corporation, Dome Petroleum Limited and Provo Gas Producers Limited	227,850.00
E. 1/2 2 & E. 1/2 11-68-8-5	The Calgary & Edmonton Corporation Limited	74,336.00
Sec. 13-68-8-5	The Calgary & Edmonton Corporation Limited	35,552.00
Sec. 14-68-8-5	The Calgary & Edmonton Corporation Limited	74,336.00
Sec. 32-85-8-5	The Atlantic Refining Company	26,368.00
E. 1/2 16-66-9-5	Pan American Petroleum Corporation	22,726.00
W. 1/2 16-66-9-5	Pan American Petroleum Corporation	22,726.00
Sec. 33-75-9-5	Hudson's Bay Oil and Gas Company Limited	48,101.01
Sec. 25-84-9-5	The Atlantic Refining Company	23,081.00
Sec. 36-75-10-5	Uno-Tex Petroleum Corporation and Banff Oil Ltd.	52,480.00
W. 1/2 27 & E. 1/2 28-76-10-5	Gemini Minerals Ltd.	134,499.00
W. 1/2 4-70-11-5	Imperial Oil Enterprises Ltd.	16,656.00
W. 1/2 30-78-11-5 & E. 1/2 25-78-12-5	The Atlantic Refining Company	29,737.00
Sec. 22-50-12-5	Sun Oil Company	46,080.00
Sec. 28-50-12-5	Sun Oil Company	46,080.00
W. 1/2 14 & E. 1/2 15-70-12-5	Montreal Trust Company	195,526.00
N.W. 1/4 16-70-12-5	Montreal Trust Company	28,326.00
Sec. 22-70-12-5	Montreal Trust Company	323,526.00
S. 1/2 & N.W. 1/4 2-79-12-5	Home Oil Company Limited	21,625.00
W. 1/2 7-60-13-5	Pan American Petroleum Corporation	16,326.00
Sec. 7-62-13-5	Canadian Fina Oil Limited, Pan American Petroleum Corporation and Hudson's Bay Oil and Gas Company Limited	26,022.40
Sec. 16-51-15-5	Canadian Export Gas & Oil Ltd.	52,323.00
W. 1/2 21-70-15-5	Pan American Petroleum Corporation	21,126.00
Sec. 3-95-15-5	Banff Oil Ltd. and Aquitaine Company of Canada Ltd.	35,437.00
Sec. 6-49-17-5	Rothwell Oil Corporation Ltd.	146,381.53
Sec. 16-68-17-5	The British American Oil Company Limited	50,284.80
N. 1/2 13-70-17-5	Imperial Oil Enterprises Ltd.	8,377.00
W. 1/2 27-70-17-5	The Calgary & Edmonton Corporation Limited	17,129.00
Sec. 12-49-18-5	Rothwell Oil Corporation Ltd.	146,381.53
Sec. 15-49-18-5	Rothwell Oil Corporation Ltd.	146,381.53
W. 1/2 17-53-18-5 (Except Natural Gas in the Elkton Zone)	Hudson's Bay Oil and Gas Company Limited	17,621.21
Sec. 21-53-18-5 (Except Natural Gas in the Elkton Zone)	Hudson's Bay Oil and Gas Company Limited and Hamilton Brothers Canadian Gas Company Ltd.	51,071.11
Sec. 25-71-18-5	Pan American Petroleum Corporation	56,346.00
N. 1/2 15 & S. 1/2 22-61-19-5	The California Standard Company	57,144.23
S. 1/2 & N.W. 1/4 21-61-19-5	The California Standard Company	42,358.61
W. 1/2 28-61-19-5	The California Standard Company	27,572.57
E. 1/2 32 & W. 1/2 33-61-19-5	Canadian Export Gas & Oil Ltd.	45,360.00
N. 1/2 8-65-20-5	Champlin Petroleum Company	24,960.00
S. 1/2 1-66-20-5	Canada-Cities Service Petroleum Corporation	23,040.00
Sec. 13-66-20-5	The Calgary & Edmonton Corporation Limited and Canadian Superior Oil Ltd.	31,027.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
Sec. 5-69-20-5	Sinclair Canada Oil Company	\$ 34,370.00
E. 1/2 7 & W. 1/2 8-71-21-5	The Atlantic Refining Company	7,258.00
N. 1/2 & S.E. 1/4 8-61-22-5 (Except Natural Gas in the Bullhead and Woodbend Reef Zones)	The Calgary & Edmonton Corporation Limited	9,328.00
Sec. 17-61-22-5 (Except Natural Gas in the Bullhead and Woodbend Reef Zones)	The Calgary & Edmonton Corporation Limited	12,440.00
Sec. 20-64-22-5	Champlin Petroleum Company	36,736.00
W. 1/2 15 & E. 1/2 16-71-22-5	The California Standard Company	\$ 23,680.80
Sec. 19-71-22-5	The Atlantic Refining Company	19,789.00
N. 1/2 14 & S. 1/2 23-62-24-5	Sun Oil Company	16,640.00
N. 1/2 & S.W. 1/4 25-60-25-5	Home Oil Company Limited	29,305.00
S. 1/2 & N.E. 1/4 1-61-25-5	Transalta Minerals Ltd.	13,333.00
E. 1/2 13-85-13-6 (Except Natural Gas in the Kiskatinaw-Golata Zone)	Imperial Oil Limited and Pan American Petroleum Corporation	32,666.00
		\$ 55,256,837.29

PETROLEUM AND NATURAL GAS RESERVATIONS PURCHASED IN PROVINCIAL RESERVES

Comprising	Offer Accepted From:	Cash Purchase Price
19,840 acres in township 68, range 11, west of the 5th meridian and in townships 67 and 68, range 12, west of the 5th meridian and located in Virginia Hills Provincial Reserve.	Pan American Petroleum Corporation	\$ 52,200.00
92,160 acres in townships 73 and 74, ranges 20 and 21, west of the 4th meridian and located in Martin Hills Provincial Reserve.	Texaco Exploration Company	355,000.00
92,160 acres in townships 75 and 76, ranges 20 and 21, west of the 4th meridian and located in Martin Hills Provincial Reserve.	The British American Oil Company Limited	300,441.60
35,200 acres in townships 73 and 74, range 22, west of the 4th meridian and located in Martin Hills Provincial Reserve.	Texaco Exploration Company	136,000.00
46,080 acres in townships 75 and 76, range 22, west of the 4th meridian and located in Martin Hills Provincial Reserve.	The British American Oil Company Limited	170,688.00
23,040 acres in township 68, range 25, west of the 4th meridian and located in Big Bend Provincial Reserve.	The Atlantic Refining Company	34,999.00
23,040 acres in township 68, range 26, west of the 4th meridian and located in Big Bend Provincial Reserve.	Imperial Oil Enterprises Ltd.	25,524.24
23,040 acres in township 75, range 3, west of the 5th meridian and located in Martin Hills Provincial Reserve.	Canadian Superior Oil Ltd. and The Calgary and Edmonton Corporation Limited	225,161.00
23,040 acres in township 76, range 3, west of the 5th meridian and located in Martin Hills Provincial Reserve.	Pan American Petroleum Corporation and Uno-Tex Petroleum Corporation	210,111.00
19,840 acres in township 68, ranges 12 and 13, west of the 5th meridian and located in Virginia Hills Provincial Reserve.	Seafort Petroleum Ltd.	55,155.20
76,800 acres in townships 89, 90 and 91, range 7, west of the 6th meridian and in townships 89 and 90, range 8, west of the 6th meridian and located in Clear Hills Provincial Reserve.	Andex Oil Co. Ltd.	\$ 7,800.00
		\$ 1,573,080.04

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

Comprising	Offer Accepted From:	Cash Purchase Price
7,680 acres in township 70, range 3, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	The California Standard Company, Standard Oil Company of British Columbia Limited and Home Oil Company Limited	\$ 1,125,000.00
7,520 acres in township 71, ranges 3 and 4, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Imperial Oil Enterprises Ltd.	1,829,760.00
7,040 acres in townships 84 and 85, range 8, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	Imperial Oil Enterprises Ltd.	33,833.83
10,880 acres in townships 54 and 55, ranges 12 and 13, west of the 5th meridian — Cambrian sediments — sixteen quarter sections.	Imperial Oil Enterprises Ltd.	129,333.00
11,360 acres in townships 46 and 47, ranges 14 and 15, west of the 5th meridian — Shunda formation of the Rundle group — sixteen quarter sections.	Uno-Tex Petroleum Corporation	526,000.00
7,686 acres in townships 75 and 76, range 14, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	French Petroleum Company of Canada Ltd. and Canadian Superior Oil Ltd.	387,777.77
6,560 acres in townships 91 and 92, range 14, west of the 5th meridian and in townships 91, range 15, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	The California Standard Company	20,162.00
10,240 acres in townships 66 and 67, ranges 15 and 16, west of the 5th meridian and in township 65, range 17, west of the 5th meridian — Gilwood sand of the Elk Point group — fourteen quarter sections.	Canada-Cities Service Petroleum Corporation	82,656.00
11,680 acres in township 63, range 1, west of the 6th meridian and in townships 62, 63 and 64, range 2, west of the 6th meridian — Leduc formation of the Woodbend group — sixteen quarter sections.	The Atlantic Refining Company and Pan American Petroleum Corporation	1,315,130.00
6,880 acres in townships 110 and 111, range 4, west of the 6th meridian and in township 110, range 5, west of the 6th meridian — Chinchaga formation of the Elk Point group — ten quarter sections.	Placid Oil Company	331,252.11
5,120 acres in townships 91 and 92, range 12, west of the 6th meridian — Triassic system — eight quarter sections.	Hudson's Bay Oil and Gas Company Limited	14,111.60
7,040 acres in township 51, range 7, west of the 5th meridian, in townships 50 and 51, range 8, west of the 5th meridian and in township 50, range 9, west of the 5th meridian — Mississippian — ten quarter sections.	Tenneco Oil Company	52,240.00
7,680 acres in townships 64 and 65, range 8, west of the 5th meridian and in township 64, range 9, west of the 5th meridian — Gilwood sand of the Elk Point group — twelve quarter sections.	Triad Oil Co. Ltd. and Devon-Palmer Oils Ltd. (No Personal Liability)	25,038.44
6,400 acres in townships 86 and 87, range 8, west of the 5th meridian and in township 86, range 9, west of the 5th meridian — immediately above the Precambrian granite — nine quarter sections.	Uno-Tex Petroleum Corporation	113,100.00
10,880 acres in township 43, range 11, west of the 5th meridian and in townships 43 and 44, range 12, west of the 5th meridian — Shunda formation of the Rundle group — sixteen quarter sections.	Tenneco Oil Company	334,230.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

(Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
8,480 acres in township 71, ranges 11 and 12, west of the 5th meridian — Gilwood sand of the Elk Point group — twelve quarter sections.	Pan American Petroleum Corporation	\$ 391,600.00
10,880 acres in townships 64 and 65, ranges 16 and 17, west of the 5th meridian — Gilwood sand of the Elk Point group — sixteen quarter sections.	The British American Oil Company Limited	256,256.00
7,200 acres in townships 65 and 66, range 21, west of the 5th meridian — Mississippian — ten quarter sections.	Triad Oil Co. Ltd.	150,032.32
8,320 acres in townships 60 and 61, range 26, west of the 5th meridian and in township 60, range 27, west of the 5th meridian — Dunvegan formation — twelve quarter sections.	Triad Oil Co. Ltd.	19,200.00
11,840 acres in township 68, ranges 4 and 5, west of the 6th meridian — Gilwood sand of the Elk Point group — sixteen quarter sections.	Scurry-Rainbow Oil Limited	622,500.00
7,360 acres in townships 70 and 71, range 3, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Socony Mobil Oil of Canada, Ltd. and Golden Eagle Oil and Gas Limited	55,555.55
7,520 acres in township 72, ranges 3 and 4, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Union Oil Company of Canada Limited and Socony Mobil Oil of Canada, Ltd.	801,000.00
10,680 acres in townships 29 and 30, ranges 5 and 6, west of the 5th meridian — Mississippian — sixteen quarter sections.	Penwa Oils Ltd., Conick Petroleum Limited, Gull Oil & Gas Ltd. and North American Petroleum Ltd.	26,660.00
6,800 acres in township 42, range 7, west of the 5th meridian and in townships 42 and 43, range 8, west of the 5th meridian — Cardium formation — eleven quarter sections.	Dome Petroleum Limited and Provo Gas Producers Limited	71,100.00
8,480 acres in townships 53 and 54, ranges 13 and 14, west of the 5th meridian — Mississippian — twelve quarter sections.	Triad Oil Co. Ltd.	25,000.00
11,360 acres in townships 54 and 55, ranges 22 and 23, west of the 5th meridian — Woodbend group — sixteen quarter sections.	Imperial Oil Enterprises Ltd., Western Decalta Petroleum Limited and Pacific Petroleum Ltd.	1,655,444.44
11,520 acres in townships 62, 63 and 64, range 1, west of the 6th meridian and in township 64, range 2, west of the 6th meridian — Woodbend group — sixteen quarter sections.	Hudson's Bay Oil and Gas Company Limited	150,486.24
11,840 acres in township 66, ranges 3 and 4, west of the 6th meridian — Wabamun group — sixteen quarter sections.	Shell Canada Limited	514,985.25
11,360 acres in townships 67 and 68, ranges 3 and 4, west of the 6th meridian — Woodbend group — sixteen quarter sections.	Triad Oil Co. Ltd.	50,000.00
12,000 acres in townships 67 and 68, ranges 5 and 6, west of the 6th meridian — Wabamun group — sixteen quarter sections.	Shell Canada Limited	764,987.75
5,760 acres in township 73, range 10, west of the 6th meridian and in townships 73 and 74, range 11, west of the 6th meridian — Cadotte member — nine quarter sections.	The California Standard Company and Standard Oil Company of British Columbia Limited	22,224.00
12,160 acres in townships 61 and 62, range 12, west of the 6th meridian and townships 62 and 63, range 13, west of the 6th meridian — Mississippian — sixteen quarter sections.	The California Standard Company and Standard Oil Company of British Columbia Limited	102,316.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

(Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
7,040 acres in townships 30 and 31, ranges 1 and 2, west of the 5th meridian — Cardium — ten quarter sections.	Northern Natural Gas Producing Company	\$ 104,000.00
7,520 acres in township 69, range 2, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Uno-Tex Petroleum Corporation	56,320.00
7,520 acres in townships 43 and 44, range 6, west of the 5th meridian — Viking — eleven quarter sections.	Canadian Homestead Oils Limited	17,777.81
7,840 acres in townships 43 and 44, ranges 7 and 8, west of the 5th meridian — Cardium — eleven quarter sections.	Dome Petroleum Limited and Provo Gas Producers Limited	104,444.00
9,600 acres in townships 41 and 42, range 8, west of the 5th meridian — Mississippian — fourteen quarter sections.	Amerada Petroleum Corporation	41,339.00
7,680 acres in townships 78, 79 and 80, range 8, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Texaco Exploration Company and Texaco Canada Limited	216,040.68
9,120 acres in townships 63 and 64, range 9, west of the 5th meridian and in township 63, range 10, west of the 5th meridian — Elk Point group — fourteen quarter sections.	The Atlantic Refining Company	67,879.00
7,040 acres in township 76, range 11, west of the 5th meridian and in townships 76 and 77, range 12, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Canadian Kewanee Limited and Mule Creek Oil Company, Inc.	44,111.11
7,680 acres in townships 54 and 55, ranges 15 and 16, west of the 5th meridian — Viking — eleven quarter sections.	Western Decalta Petroleum Limited, The Petrol Oil & Gas Company, Limited (No Personal Liability), New Brunswick Oilfields, Limited, Westburne Oil Development Limited, New Continental Oil Company of Canada Limited, Consolidated East Crest Oil Company Limited and Ashland Oil & Refining Company	38,725.00
8,320 acres in township 59, range 15, west of the 5th meridian and in townships 58 and 59, range 16, west of the 5th meridian — Banff formation — twelve quarter sections.	The California Standard Company	59,523.82
12,160 acres in townships 47 and 48, range 17, west of the 5th meridian and in township 48, range 18, west of the 5th meridian — Mississippian — sixteen quarter sections.	Pan American Petroleum Corporation	194,128.00
10,880 acres in townships 52 and 53, range 19, west of the 5th meridian and in township 52, range 20, west of the 5th meridian — Leduc formation of the Woodbend group — sixteen quarter sections.	Hudson's Bay Oil and Gas Company Limited	1,057,000.00
6,880 acres in townships 65 and 66, range 21, west of the 5th meridian and in township 66, range 22, west of the 5th meridian — Mississippian — ten quarter sections.	The British American Oil Company Limited	97,632.00
11,200 acres in township 67, range 22, west of the 5th meridian and in townships 66 and 67, range 23, west of the 5th meridian — Gilwood sand of the Elk Point group — sixteen quarter sections.	Sun Oil Company	76,800.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

(Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
10,880 acres in township 66, range 5, west of the 6th meridian, in townships 66 and 67, range 6, west of the 6th meridian and in townships 66 and 67, range 7, west of the 6th meridian — Pekisko formation — sixteen quarter sections.	Pan American Petroleum Corporation	\$ 109,168.00
5,920 acres in township 73, range 13, west of the 6th meridian — Cadotte member — nine quarter sections.	The California Standard Company	16,231.00
6,560 acres in townships 57 and 58, range 8, west of the 5th meridian and in township 58, range 9, west of the 5th meridian — Mississippian — nine quarter sections.	Texaco Exploration Company	189,489.68
7,680 acres in townships 77 and 78, ranges 8 and 9, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Skelly Oil Company and Canadian Superior Oil Ltd.	232,302.40
9,760 acres in townships 63 and 64, range 12, west of the 5th meridian — Beaverhill Lake formation — fourteen quarter sections.	The Atlantic Refining Company	44,518.00
8,160 acres in township 70, ranges 12 and 13, west of the 5th meridian — Elk Point group — twelve quarter sections.	Pan American Petroleum Corporation	213,715.20
8,139 acres in townships 75 and 76, range 14, west of the 5th meridian and in townships 75, 76 and 77, range 15, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	French Petroleum Company of Canada Ltd. and Canadian Superior Oil Ltd.	17,715.25
9,760 acres in townships 70 and 71, range 16, west of the 5th meridian and in township 70, range 17, west of the 5th meridian — Elk Point group — fourteen quarter sections.	Texaco Exploration Company	59,516.88
9,440 acres in townships 70, 71 and 72, range 20, west of the 5th meridian and in township 72, range 21, west of the 5th meridian — Cambrian sediments — fourteen quarter sections.	The Atlantic Refining Company and Canadian Kewanee Limited	54,698.00
11,520 acres in township 65, range 2, west of the 6th meridian and in townships 65 and 66, range 3, west of the 6th meridian — Wabamun formation — sixteen quarter sections.	Bailey Selburn Oil & Gas Ltd. and French Petroleum Company of Canada Limited	205,388.80
12,080 acres in townships 7, 8, 9 and 10, range 1, west of the 5th meridian and in townships 7, 8 and 10, range 2, west of the 5th meridian — Mississippian — sixteen quarter sections.	The California Standard Company	51,080.00
6,880 acres in township 41, range 4, west of the 5th meridian and in townships 40 and 41, range 5, west of the 5th meridian — Cardium formation — ten quarter sections.	Texaco Exploration Company and Texaco Canada Limited	52,536.46
9,760 acres in township 39, range 6, west of the 5th meridian, in townships 38, 39 and 40, range 7, west of the 5th meridian and in township 40, range 8, west of the 5th meridian — Mississippian — fourteen quarter sections.	DeKalb Petroleum Corporation	34,810.00
7,360 acres in townships 72 and 73, ranges 9 and 10, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	The British American Oil Company Limited	44,121.50
10,880 acres in townships 43 and 44, range 11, west of the 5th meridian, in townships 43, 44 and 45, range 12, west of the 5th meridian and in township 44, range 13, west of the 5th meridian — Shunda formation of the Rundle group — sixteen quarter sections.	Tenneco Oil Company	66,430.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED (Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
10,720 acres in township 66, ranges 13, 14 and 15, west of the 5th meridian — Gilwood sand of the Elk Point group — sixteen quarter sections.	Pan American Petroleum Corporation	\$ 188,160.00
8,320 acres in townships 58 and 59, range 15, west of the 5th meridian and in township 58, range 16, west of the 5th meridian—Banff formation—twelve quarter sections.	Hamilton Brothers' Canadian Gas Company Ltd. and The California Standard Company	19,526.40
10,560 acres in townships 53 and 54, range 18, west of the 5th meridian and in townships 53 and 54, range 19, west of the 5th meridian — Leduc formation of the Woodbend group — sixteen quarter sections.	Hudson's Bay Oil and Gas Company Limited	157,101.01
11,040 acres in townships 53 and 54, ranges 19 and 20, west of the 5th meridian — Pekisko formation — sixteen quarter sections.	Muskeg Oil Company	102,120.00
8,320 acres in townships 59 and 60, ranges 2 and 3, west of the 5th meridian — immediately above the Precambrian granite — twelve quarter sections.	Home Oil Company Limited	20,558.00
6,080 acres in townships 46 and 47, range 3, west of the 5th meridian and in township 47, range 4, west of the 5th meridian — Cardium formation — nine quarter sections.	Canada-Cities Service Petroleum Corporation	50,904.00
7,680 acres in townships 75 and 76, range 4, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Triad Oil Co. Ltd., Richfield Oil Corporation, Canadian Delhi Oil Ltd. and Devon-Palmer Oils Ltd. (No Personal Liability)	18,110.40
7,040 acres in townships 76 and 77, range 4, west of the 5th meridian — Gilwood sand of the Elk Point group — ten quarter sections.	Triad Oil Co. Ltd., Richfield Oil Corporation, Canadian Delhi Oil Ltd. and Devon-Palmer Oils Ltd. (No Personal Liability)	20,064.00
6,240 acres in township 90, ranges 6 and 7, west of the 5th meridian — immediately above the Precambrian granite — nine quarter sections.	Sinclair Canada Oil Company	51,733.00
7,680 acres in townships 65 and 66, range 7, west of the 5th meridian—Gilwood sand of the Elk Point group —eleven quarter sections.	Prairie Oil Royalties Company Ltd. and Western Decalta Petroleum Limited	358,670.00
7,360 acres in townships 43 and 44, ranges 8 and 9, west of the 5th meridian — Cardium formation — eleven quarter sections.	Dome Petroleum Limited and Provo Gas Producers Limited	184,444.00
8,320 acres in townships 77 and 78, range 17, west of the 5th meridian — immediately above the Precambrian granite — twelve quarter sections.	Central-Del Rio Oils Limited	25,036.80
7,520 acres in township 62, ranges 18 and 19, west of the 5th meridian — Nordegg formation of the Fernie group — eleven quarter sections.	The California Standard Company and The British American Oil Company Limited	310,111.12
10,560 acres in townships 57 and 58, range 19, west of the 5th meridian — Leduc formation of the Woodbend group — sixteen quarter sections.	Hudson's Bay Oil and Gas Company Limited, Pan American Petroleum Corporation and Canadian Fina Oil Limited	50,006.00
10,240 acres in townships 65 and 66, range 20, west of the 5th meridian, in townships 65, 66 and 67, range 21, west of the 5th meridian and in township 66, range 22, west of the 5th meridian — Gilwood sand of the Elk Point group — sixteen quarter sections.	Frontier Oil & Gas Ltd	91,650.00
9,760 acres in townships 70 and 71, ranges 19 and 20, west of the 5th meridian — Gilwood sand of the Elk Point group — fourteen quarter sections.	Sinclair Canada Oil Company and Pacific Petroleums Ltd.	62,841.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

(Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
6,560 acres in townships 69 and 70, range 20, west of the 5th meridian — Mississippian — nine quarter sections.	Pan American Petroleum Corporation	\$ 150,336.00
6,720 acres in township 72, range 20, west of the 5th meridian and in townships 71 and 72, range 21, west of the 5th meridian — Mississippian — nine quarter sections.	The Atlantic Refining Company	22,459.00
9,600 acres in townships 40 and 41, range 7, west of the 5th meridian and in township 41, range 8, west of the 5th meridian — Mississippian — fourteen quarter sections.	Amerada Petroleum Corporation	75,264.00
7,040 acres in township 59, range 7, west of the 5th meridian — into the Ireton formation of the Woodbend group — ten quarter sections.	Canadian Fina Oil Limited	30,094.00
7,040 acres in township 79, range 7, west of the 5th meridian and in townships 78 and 79, range 8, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	Texaco Exploration Company and Texaco Canada Limited	\$ 3,219,200.88
8,320 acres in townships 62 and 63, ranges 8 and 9, west of the 5th meridian — Gilwood sand of the Elk Point group — twelve quarter sections.	Pan American Petroleum Corporation	83,756.00
7,680 acres in township 77, range 8, west of the 5th meridian and in townships 77 and 78, range 9, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Canadian Superior Oil Ltd. and Skelly Oil Company	26,059.00
6,240 acres in township 88, range 8, west of the 5th meridian and in townships 87 and 88, range 9, west of the 5th meridian — immediately above the Precambrian granite — nine quarter sections.	Union Oil Company of Canada Limited	116,000.00
6,240 acres in township 91, range 8, west of the 5th meridian — immediately above the Precambrian granite — nine quarter sections.	Uno-Tex Petroleum Corporation	21,600.00
9,280 acres in township 64, ranges 9 and 10, west of the 5th meridian — Gilwood sand of the Elk Point group — fourteen quarter sections.	The Atlantic Refining Company	228,899.00
5,760 acres in townships 84 and 85, range 9, west of the 5th meridian — immediately above the Precambrian granite — nine quarter sections.	The California Standard Company, Provo Gas Producers Limited, Dome Petroleum Limited and Supertest Investments and Petroleum Limited	24,940.80
7,200 acres in townships 76 and 77, range 11, west of the 5th meridian and in township 77, range 12, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Sun Oil Company	80,280.00
9,600 acres in townships 66 and 67, range 16, west of the 5th meridian and in townships 65, 66, and 67, range 17, west of the 5th meridian — Gilwood sand of the Elk Point group — fourteen quarter sections.	The Calgary & Edmonton Corporation Limited, Canadian Export Gas & Oil Ltd. and Canadian Superior Oil Ltd.	131,838.83
10,880 acres in townships 49 and 50, ranges 17 and 18, west of the 5th meridian — Mississippian — sixteen quarter sections.	The Calgary & Edmonton Corporation Limited and Altana Exploration Company	868,383.00
8,000 acres in township 60, range 18, west of the 5th meridian and in townships 60 and 61, range 19, west of the 5th meridian — Mississippian — twelve quarter sections.	Triad Oil Co. Ltd.	85,061.23

CROWN RESERVE DRILLING RESERVATIONS PURCHASED

(Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
10,880 acres in townships 71 and 72, range 22, west of the 5th meridian — immediately above the Precambrian granite — sixteen quarter sections.	The Atlantic Refining Company and Canadian Kewanee Limited	\$ 28,536.00
10,560 acres in township 72, range 22, west of the 5th meridian, in townships 72 and 73, range 23, west of the 5th meridian and in township 73, range 24, west of the 5th meridian — immediately above the Precambrian granite — sixteen quarter sections.	The Atlantic Refining Company and Canadian Kewanee Limited	51,815.00
6,400 acres in township 46, range 4, west of the 5th meridian and in townships 46 and 47, range 5, west of the 5th meridian — Mississippian — eleven quarter sections.	Pan American Petroleum Corporation and Hudson's Bay Oil and Gas Company Limited	122,205.00
7,040 acres in townships 53 and 54, range 6, west of the 5th meridian and in township 53, range 7, west of the 5th meridian — Mississippian — ten quarter sections.	Taurus Oil Co. Ltd. and Canadian Fina Oil Limited	25,776.00
7,200 acres in township 77, range 7, west of the 5th meridian and in townships 76 and 77, range 8, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	Great Plains Development Company of Canada Ltd., Sinclair Canada Oil Company and Canadian Superior Oil Ltd.	\$ 17,785.00
7,680 acres in townships 73 and 74, ranges 9 and 10, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Prairie Oil Royalties Company Ltd., Western Decalta Petroleum Limited, Vulcan Resources Corporation, Leduc Calmar Oil Company Limited, Monterey Petroleum Corporation Ltd. and Alberta Pacific Consolidated Oils Limited	371,697.89
7,680 acres in township 76, range 10, west of the 5th meridian and in townships 75 and 76, range 11, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Socony Mobil Oil of Canada Ltd.	528,825.00
7,040 acres in township 78, range 10, west of the 5th meridian and in townships 77, 78 and 79, range 11, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	Skelly Oil Company	33,699.99
8,320 acres in township 69, range 11, west of the 5th meridian, in townships 69 and 70, range 12, west of the 5th meridian and in township 69, range 13, west of the 5th meridian — Gilwood sand of the Elk Point group — twelve quarter sections.	Pan American Petroleum Corporation	310,230.00
7,840 acres in township 78, ranges 12 and 13, west of the 5th meridian — immediately above the Precambrian granite — eleven quarter sections.	Chieftain Development Co. Ltd. and Blue Crown Petroleums Ltd.	22,790.00
7,200 acres in township 87, range 12, west of the 5th meridian and in townships 87 and 88, range 13, west of the 5th meridian — immediately above the Precambrian granite — ten quarter sections.	Kern County Land Company, Midwest Oil Corporation and Imperial Oil Enterprises Ltd.	18,025.00
9,120 acres in townships 70 and 71, range 17, west of the 5th meridian and in townships 71 and 72, range 18, west of the 5th meridian — Gilwood sand of the Elk Point group — fourteen quarter sections.	Pan American Petroleum Corporation	150,732.00

CROWN RESERVE DRILLING RESERVATIONS PURCHASED (Continued)

Comprising	Offer Accepted From:	Cash Purchase Price
7,520 acres in townships 61 and 62, range 18, west of the 5th meridian — Shunda formation of the Rundle group — eleven quarter sections.	The Calgary & Edmonton Corporation Limited and Canadian Export Gas & Oil Ltd.	\$ 63,363.63
8,320 acres in township 60, ranges 19 and 20, west of the 5th meridian — Mississippian — twelve quarter sections.	The Calgary & Edmonton Corporation Limited and Canadian Export Gas & Oil Ltd.	43,363.63
		<u>\$ 24,230,465.23</u>

CROWN RESERVE NATURAL GAS LICENSES PURCHASED

Comprising	Offer Accepted From:	Cash Purchase Price
22,880 acres in townships 122, 123 and 124, range 10, west of the 6th meridian and in township 124, range 11, west of the 6th meridian.	The California Standard Company	\$ 36,369.00
		<u>\$ 36,369.00</u>

CROWN RESERVE NATURAL GAS LEASES PURCHASED

(Pursuant to The Mines and Minerals Act, 1962
Section 148, Subsection (2) Clause (b))

Comprising	Offer Accepted From:	Cash Purchase Price
The south half of section 17, township 39, range 1, west of the 5th meridian.	Provo Gas Producers Limited, Dome Petroleum Limited and Canadian Superior Oil Ltd.	\$ 16,505.00
		<u>16,505.00</u>

CROWN RESERVE FRACTIONAL AREA LEASES PURCHASED

Comprising	Offer Accepted From:	Cash Purchase Price
25.4 acres in section 6, township 73, range 4, west of the 5th meridian.	Imperial Oil Enterprises Ltd.	\$ 14,522.00
30.3 acres in section 1, township 73, range 5, west of the 5th meridian.	Imperial Oil Enterprises Ltd.	17,324.00
81.3 acres in sections 33 and 34, township 72, range 5, west of the 5th meridian and in sections 2 and 3, township 73, range 5, west of the 5th meridian.	Imperial Oil Enterprises Ltd.	46,482.00
	Banff Oil Ltd., Canada Oil Lands Ltd., Britalta (Alberta) Petroleum Ltd., Socony Mobil Oil of Canada, Ltd. and Jefferson Lake Petrochemicals of Canada Ltd.	3,750.00
160 acres in section 12, township 25, range 1, west of the 5th meridian.		
382 acres in sections 19, 29 and 30, township 73, range 11, west of the 5th meridian.	The Paddon Hughes Development Co. Ltd.	9,397.00
	Whitehall Canadian Oils Ltd., Canadian High Crest Oils Limited, Westburne Oil Development Limited and Abilene Oil Enterprises Ltd.	\$ 3,000.00
160 acres in section 14, township 48, range 3, west of the 5th meridian.		
247.2 acres in section 16, township 25, range 6, west of the 5th meridian.	Imperial Oil Enterprises Ltd.	46,397.00
		<u>\$ 140,872.00</u>

Reservations—During the fiscal year 369 reservations were issued covering an area of 19,216,404 acres and at the close of the year 894 reservations were active containing an area of 46,629,097 acres.

The revenue from reservation fees amounted to \$92,250.00; for extending reservations amounted to \$4,630,543.81 and the revenue from bonuses accepted by the Director of Minerals at sales of petroleum and natural gas reservations by tender amounted to \$5,357,887.81.

Credit of not in excess of fifty per cent of the approved expenditures incurred in geophysical examination including drilling on petroleum and natural gas reservations may apply to the rental for one year of any lease or leases acquired out of reservations and during the fiscal year under review rentals of \$1,346,211.20 were satisfied from such expenditures.

Crown Reserve Drilling Reservations—During the fiscal year 106 drilling reservations were issued covering an area of 909,945 acres and at the close of the year 149 were active containing an area of 1,308,081 acres.

The revenue from drilling reservation fees amounted to \$26,500.00, from rentals \$648,349.75 and the revenue from accepted offers at sales of Crown reserve drilling reservations amounted to \$24,230,465.23.

Credit may be granted for expenditures incurred in drilling a well on a drilling reservation and applied in satisfaction of the first year's rental. During the fiscal year rentals on leases acquired out of the reservations of \$138,720.00 were satisfied by credit.

Petroleum and Natural Gas Permits—During the fiscal year 147 permits covering an area of 2,066,984 acres were issued and at the close of the year 199 permits were active containing an area of 2,741,455 acres. The revenue from fees was \$1,470.00 and from rentals was \$2,284,581.50 and the revenue from accepted offers at sales of permits was \$6,191,131.73. Credit of not in excess of fifty per cent may be granted for expenditures incurred in drilling a well on a permit and applied in satisfaction of the first year's rental. During the fiscal year rentals on leases acquired out of the permits of \$864,770.95 were satisfied by credit.

Natural Gas Licences—During the fiscal year twenty natural gas licences covering an area of 268,516 acres were issued and at the close of the year nine licences were active containing an area of 131,914 acres. The revenue from fees was \$5,750.00 and from rentals was \$25,142.00. Credit may be granted for expenditures incurred in drilling a well on a natural gas licence and applied in satisfaction of the first year's rental. During the fiscal year rentals on leases acquired out of the licences of \$29,555.30 were satisfied by credit.

Crown Reserve Natural Gas Licences—During the fiscal year one Crown reserve natural gas licence covering an area of 22,880

acres was issued. At the close of the year two licences were active, containing an area of 45,920 acres. The revenue from fees was \$250.00, from rentals \$6,658.00 and the revenue from accepted offers at sales of Crown reserve natural gas licences amounted to \$36,369.00. Credit may be granted for expenditures incurred in drilling a well on a Crown reserve natural gas licence and applied in satisfaction of the first year's rental. During the fiscal year rentals on leases acquired out of the licences of \$5,-048.00 were satisfied by credit.

Natural Gas Leases—During the fiscal year 63 natural gas leases were issued covering 308,170 acres, and at the close of the fiscal year a total of 980 leases were in existence comprising an area of 4,155,438 acres. Forty-one of the leases were granted out of natural gas licences or Crown reserve natural gas licences and permit the recovery of natural gas from one or more zones specified in the lease. Ten leases were issued comprising the balance of the spacing units to permit natural gas wells that were capable of commercial production to be operated at full production allowables, seven were issued as they were considered essential in the operation of natural gas utilities and five were issued for the recovery of gas for domestic purposes.

The annual rental of a natural gas lease is thirty-three and one-third cents an acre. While an adequate market or a market in which the lessee may participate is not available, the annual rental is reduced to ten cents an acre. The revenue received from fees was \$590.00 and from lease rentals \$866,509.58.

COAL

In the fiscal year, 49 leases were issued containing 27,667 acres, being made up of new and renewal and second renewal leases. There are now 423 active leases comprising 166,450 acres. There were eight road allowance coal mining leases issued and there are now 102 active. The revenue received from fees was \$325.00 and from lease rentals \$62,277.08.

Crown royalties collected during the fiscal year were \$174,-003.24 and the following tonnage of coal, subject to royalty was mined.

	Tons
Coal Leases	1,846,949
Coal Lands and Mineral Sales	119,374
TOTAL	1,966,323

The reduction of the annual rental to twenty-five cents an acre of coal mining leases other than leases of road allowances has been extended for a further five year period and applies to all leases issued prior to April 1st, 1964.

QUARRYING

During the fiscal year three quarrying leases comprising a total of 377 acres were issued, two for limestone, and one for gypsum and quartz rock.

Extraction of 651,746 tons of limestone and shale, 14,661 cubic yards of clay, 19,343 tons of bentonite, 600 tons of sandstone and 28 tons of building stone and 96 tons of dolomitic siltstone from Crown leases was reported and at the close of the fiscal year 98 quarrying leases containing an area of 18,984 acres were active.

BITUMINOUS SANDS

Three bituminous sands prospecting permits and three leases were issued during the year. There were six permits and 82 leases active at the close of the year.

OIL SANDS

Six oil sands leases were issued during the year. At the close of the year 25 leases were active.

QUARTZ

During the fiscal year 213 claims were recorded and 250 continued for a further year.

PLACER

During the fiscal year one claim was renewed for another year. There were 91 ounces of gold and seven ounces of silver recovered at two gravel plants.

SODIUM CHLORIDE (Common Salt)

During the fiscal year the plant near Lindbergh operated and reported extraction of 55,383 tons, an increase of 10,026 tons from the previous year.

SULPHUR

The total production of sulphur in Alberta in 1964 was 1,413,154 long tons, an increase of 185,487 long tons over that reported the previous year.

IRON

During the fiscal year one iron lease comprising 6,980 acres was issued and at the close of the year, six leases were active containing an area of 33,379 acres.

ROADWAY SALES

During the fiscal year five notifications were issued pursuant to section 24 of The Mines and Minerals Act, 1962. Section 24 provides a means whereby minerals in roadways may be returned to the adjacent owner.

WELL LICENCES

During the fiscal year there were 1,995 licences issued for wells to be drilled for the purpose of obtaining oil or gas, 53 licences were issued for the purpose of drilling test holes, eight licences were issued for wells to be drilled for the purpose of injecting gas, air, water or other substance to an underground formation, 58 licences were issued for wells to be drilled for the purpose of obtaining water for injection and for domestic water wells at depths in excess of 500 feet and two were drilled for geological information.

DRILLING STATISTICS

The drilling and production of petroleum and natural gas wells in the Province are administered by the Oil and Gas Conservation Board, 603 - 6th Avenue South West, Calgary, Alberta, and particulars as to the drilling activity, production and statistical data are included in weekly, monthly and annual reports issued by the Board.

GEOPHYSICAL AND GEOLOGICAL EXPLORATION

During the fiscal year 102 licences and nine permits were issued and 55 permits were renewed.

UNIT OPERATION OF MINERALS

During the fiscal year 45 agreements pursuant to Part VIII of The Mines and Minerals Act, 1962 were entered into for unit operation of petroleum and natural gas properties.

These agreements were:

Sundre Unit No. 2 in townships 33 and 34, range 5 west of the 5th meridian.

Cessford Unit No. 2 in township 25, range 12, west of the 4th meridian.

Judy Creek West Beaverhill Lake Unit in townships 63 and 64, ranges 11 and 12, west of the 5th meridian.

Condor Lower Mannville Natural Gas Unit No. 1 in townships 38 and 39, range 4, west of the 5th meridian.

Pembina Easyford Cardium Unit No. 1 in township 50, ranges 8 and 9, west of the 5th meridian.

Garrington Cardium Unit No. 2 in townships 34 and 35, ranges 4 and 5, west of the 5th meridian.

Wildcat Hills Unit in townships 26, 27 and 28, ranges 5 and 6, west of the 5th meridian.

Cynthia East Unit in township 49, range 10, west of the 5th meridian.

South Garrington Cardium "B" Unit No. 1 in townships 32 and 33, ranges 2 and 3, west of the 5th meridian.

North Sibbald Gas Unit in townships 29, 30, 31 and 32, ranges 1 and 2, west of the 4th meridian.

Drumheller Nisku Unit No. 2 in township 29, range 20, west of the 4th meridian.

Garrington Cardium Unit No. 3 in townships 33 and 34, ranges 3 and 4, west of the 5th meridian.

Retlaw Unit No. 1 in townships 12 and 13, ranges 18 and 19, west of the 4th meridian.

Bigoray Ostracod Unit No. 1 in township 51, range 8, west of the 5th meridian.

Hespero Unit in townships 38 and 39, ranges 3 and 4, west of the 5th meridian.

Willesden Green Cardium Unit No. 4 in townships 41 and 42, range 6, west of the 5th meridian.

Inverness Unit No. 1 in townships 68 and 69, ranges 10 and 11, west of the 5th meridian.

Crossfield Cardium Unit No. 2 in townships 25, 26, 27 and 28, ranges 1 and 2, west of the 5th meridian.

Wayne-Rosedale Glauconitic Unit No. 1 in townships 28 and 29, range 20, west of the 4th meridian.

Hackett Mannville "A" Unit No. 1 in township 36, range 18, west of the 4th meridian.

Chin Coulee Unit No. 1 in township 7, range 14, west of the 4th meridian.

Unit Agreement — Dunmore Field in townships 10 and 11, ranges 4 and 5, west of the 4th meridian.

Cynthia Cardium Unit No. 1 in townships 49 and 50, range 11, west of the 5th meridian.

South Pembina Cardium Unit in township 47, range 8, west of the 5th meridian.

Bon Accord Viking Unit in township 56, range 23, west of the 4th meridian.

Lone Pine Creek Gas Unit No. 1 in townships 30 and 31, ranges 27 and 28, west of the 4th meridian.

Golden Spike South D-2 "A" Pool Unit in township 51, range 27, west of the 4th meridian.

Carson Creek North Beaverhill Lake Unit No. 1 in townships 61 and 62, ranges 11 and 12, west of the 5th meridian.

Leafland South Cardium Unit No. 1 in townships 39 and 40, range 5, west of the 5th meridian.

Willesden Green Cardium Unit No. 3 in townships 41 and 42, range 6, west of the 5th meridian.

Hespero Unit in townships 38 and 39, ranges 3 and 4, west of the 5th meridian.

Leafland South Cardium Unit No. 1 in townships 39 and 40, range 5, west of the 5th meridian.

South Sibbald Viking and Blairmore Gas Unit in townships 26, 27, 28 and 29, ranges 1, 2 and 3, west of the 4th meridian.

North Oyen Gas Unit in township 29, ranges 4 and 5, west of the 4th meridian.

Lone Pine Creek Gas Unit No. 1 in townships 30 and 31, ranges 27 and 28, west of the 4th meridian.

Snipe Lake Beaverhill Lake Unit No. 1 in townships 70 and 71, ranges 17 to 19 inclusive, west of the 5th meridian.

Sylvan Lake Gas Unit No. 1 in townships 37 to 39 inclusive, ranges 3 and 4, west of the 5th meridian.

Where a person is required by or has the approval of the Oil and Gas Conservation Board to proceed with a scheme to inject any substance into an underground formation, he is permitted by section 186 of The Mines and Minerals Act, 1962 to proceed with the scheme without obtaining an agreement.

There were 50 schemes in which Crown mineral rights were involved. Twenty-three schemes authorized the return of salt

water produced with petroleum and natural gas to subsurface formations in the Acheson, Halkirk, Lloydminster, Erskine, Pincher Creek, Sturgeon Lake South, Carson Creek, Leduc Woodbend, Malmo, Cessford, Horsefly Lake, Fincastle, Ewing Lake, Fenn-Big Valley, Bantry East, Alderson, Sylvan Lake, Baxter Lake-Wainwright, Gordondale, Sunset, Alix and Hussar fields. Eighteen schemes permitted the injection of water for pressure maintenance purposes. One was into the Cardium formation of the Leafland field, one into the Cardium formation of the Willesden Green field, nine into the Cardium formation of the Pembina field, one into the Beaverhill Lake A and B formations of the Carson Creek North field, one into the Cardium B formation of the Garrington field, one into the Ostracod formation of the Bigoray field, one into the Wainwright formation of the Wainwright field, one into the Beaverhill Lake formation of the Snipe Lake field, one into the Beaverhill Lake formation of the Judy Creek South field and one into the Beaverhill Lake A and B formations of the Swan Hills field. Three schemes authorized the disposal of refinery waste fluids into subsurface formations in the Joffre and Fort Saskatchewan areas and also into the north west quarter of section 17, township 53, range 23, west of the 4th meridian. Two schemes authorized pilot tests of water injection into pools in the Hamilton Lake and Snipe Lake fields. One scheme authorized the recycling of gas in the Carstairs field. One scheme authorized an experimental scheme for pressure maintenance and enhanced recovery from a pool in the Ethel Lake area. One scheme authorized the disposal of process water from a processing plant into subsurface formations in the Crossfield area. One scheme authorized the disposal of water from a treating and cleaning plant into subsurface formations in the Hardisty area.

STAFF

At the close of the fiscal year the Division staff numbered 61 and they continued to give outstanding service.

MINERAL TAX DIVISION

Report of the Superintendent

J. A. SAVAGE

Producing area tax revenue for the fiscal year ending March 31st, 1965 amounted to \$1,360,838.69 being a decrease of \$6,938.85 from the previous year's revenue of \$1,367,777.54. The tax rate for the 1964 assessment remained at eight mills.

Mineral tax based on acreage for the fiscal year was received in the amount of \$579,559.49 which was an increase of \$29,341.50 over the \$550,217.99 received in the preceding year. The rate of tax remained at three cents an acre.

Five new fields were added to the designated producing areas for the year 1964, while producing areas Medicine Hat-Redcliff and Parkland were cancelled. The new fields were Garrington, Sundre and Westward Ho as petroleum fields and Kessler and Lookout Butte as natural gas fields. All were assessed as unitized areas and the assessments were made in accordance with the tract factors listed in the Unitization Agreements filed with the Department.

All designated producing areas are listed below showing the number of parcels assessed, minerals assessed and the assessed value.

Producing Area	Parcels Assessed	Principal Mineral	Assessed Value
Acheson	28	Petroleum and Natural Gas	\$ 5,106,998.35
Alexander	12	Natural Gas	477,440.86
Bentley	27	Petroleum	1,475,664.17
Bindloss	3	Natural Gas	38,504.25
Bonnie Glen	22	Petroleum and Natural Gas	11,499,649.92
Calgary	280	Petroleum and Natural Gas	4,084,023.95
Campbell	14	Petroleum and Natural Gas	110,284.84
Carstairs-Elkton	134	Petroleum and Natural Gas	6,323,474.06
Cessford	18	Petroleum and Natural Gas	354,348.71
Chauvin	4	Petroleum	132,665.28
Clive North	16	Petroleum and Natural Gas	189,461.85
Fort Saskatchewan	117	Natural Gas	633,759.00
Garrington	10	Petroleum	693,492.41
Harmattan-Elkton	95	Petroleum and Natural Gas	9,182,229.31
Homeglen-Rimbey	50	Petroleum and Natural Gas	2,649,987.87
Innisfail	23	Petroleum and Natural Gas	6,952,716.98
Joarcam	67	Petroleum	5,561,487.02
Joffe	45	Petroleum	4,590,666.25
Jumping Pound	83	Natural Gas	1,036,743.89
Kessler	30	Natural Gas	46,154.75
Leduc	291	Petroleum and Natural Gas	20,520,187.00
Lookout Butte	8	Natural Gas	9,113.33
Medicine Hat-Roseglen	17	Natural Gas	36,607.37
Namao	9	Petroleum and Natural Gas	279,613.52
Nevis	100	Natural Gas	1,160,072.52
Okotoks	89	Natural Gas	883,476.51
Oyen	1	Natural Gas	10,005.29
Pincher Creek	29	Natural Gas	2,808,602.29
Provost	136	Natural Gas	439,802.40

Redwater	17	Petroleum and	
Sarcee	1	Natural Gas	8,621,940.50
Stettler	12	Natural Gas	217,312.65
Sundre	2	Petroleum	2,012,679.61
Threehills Creek	45	Petroleum	68,826.60
Turner Valley	61	Natural Gas	96,177.65
		Petroleum and	
Viking-Kinsella	450	Natural Gas	3,625,159.13
Wainwright	35	Natural Gas	1,155,492.02
Westerose	5	Petroleum	191,648.23
Westerose-South	21	Petroleum	4,438,190.38
Westward Ho	7	Natural Gas	3,030,270.37
Wizard Lake	8	Petroleum	1,337,216.38
		Petroleum and	
Wood River	19	Natural Gas	9,289,190.51
		Natural Gas	76,235.37

In addition to the designated producing areas, there were 1034 parcels assessed. These had a total assessed value of \$49,-050,154.65, with the principal minerals assessed being petroleum, natural gas, coal and salt.

Under the heading of parcels assessed are the number of items appearing on the assessment roll with each parcel relating to the area contained in a certificate of title. In determining the assessed value of a parcel, each spacing unit on which a well has been brought into production is calculated separately, consequently, several calculations may be made in arriving at the assessment for petroleum in a parcel containing minerals in a section of land.

The revenue derived from the taxation of minerals from the enactment of the statute in 1941 until March 31st, 1949 collected by the Department of Lands and Mines was \$1,921,180.47 and revenue collected by the Department of Mines and Minerals from April 1st, 1949 is shown in the following tabulation:

Year	Mill Rate	Producing	Per Acre	Acreage Tax	Fees	Total
1949-50	8	\$ 452,838.16	1½c	\$297,883.10	\$ 286.50	\$ 751,007.76
1950-51	8	526,029.61	1½c	307,062.62	511.00	833,603.23
1951-52	8	444,293.91	1½c	323,185.71	2,320.10	769,799.72
1952-53	8	572,671.45	1½c	310,285.08	3,204.00	886,160.53
1953-54	8	717,352.55	1½c	283,853.18	1,055.50	1,002,261.23
1954-55	8	1,031,913.72	1½c	277,842.74	1,467.00	1,311,223.46
1955-56	8	1,031,802.40	1½c	264,496.50	914.50	1,297,213.40
1956-57	8	1,070,380.73	1½c	272,883.90	1,101.50	1,344,366.13
1957-58	8	1,232,795.31	1½c	282,057.60	1,056.50	1,515,909.41
1958-59	8	1,115,478.85	1½c	306,179.40	472.00	1,422,130.25
1959-60	8	909,799.94	1½c	337,452.83	545.50	1,247,798.27
1960-61	8	957,673.20	1½c	303,051.45	339.00	1,261,063.65
1961-62	8	991,779.50	*3c	277,992.80	545.50	1,270,317.80
1962-63	8	1,210,475.19	3c	530,170.30	446.50	1,741,091.99
1963-64	8	1,367,777.54	3c	550,217.99	203.00	1,918,198.53
1964-65	8	1,360,838.69	3c	579,559.49	368.50	1,940,766.68

* Change in rate effective January 1st, 1962.

There were 737 mineral tax certificates issued during the fiscal year with revenue derived therefrom being \$368.50. A tax certificate shows the amount of current taxes and arrears payable with respect to the mineral or minerals contained in a certificate of title and anyone may obtain a certificate for a fee of fifty cents.

Pursuant to The Mineral Titles Redemption Act, after the mineral titles were acquired by the Crown, there were instances where the minerals were granted under lease, licence, reservation, permit or other agreement, for exploration and development. The statute provides that where the minerals have been granted by the Crown, the return of the title to the former owner must be delayed until the minerals are no longer under lease, licence,

reservation, permit or other agreement. In these instances, the former owner is entitled to receive the moneys collected by the Crown less a deduction of an amount equal to the tax that would have been charged had title been returned.

During the fiscal year the amount of moneys collected on existing agreements and returned to former owners was \$20,-987.37. This brings the total to \$385,066.75 that has been returned to former owners since the Act came into force.

There were 7 agreements terminated during the year which resulted in titles being returned to former owners, making a total of 1,161 titles returned since the inception of the Act. As at March 31st, 1965, there were 49 titles, the redemption of which will be delayed because they are subject to lease, licence, reservation, permit or other agreement.

Under the heading "Mines and Minerals" the following items appear on the statement of the Department of Mines and Minerals for the year ended March 31st, 1965. The statement is a summary of the Department's activities in the field of mining and mineral development. It is not intended to provide a detailed account of the Department's work, but to give a general impression of the Department's activities. The statement is divided into two main parts: "Mines and Minerals" and "Geological Survey". The "Mines and Minerals" part is further divided into "Production" and "Consumption". The "Geological Survey" part is further divided into "Exploration" and "Development". The statement is presented in the following tabular form:

Year	Production	Consumption	Exploration	Development
1964-65	1,000,000	1,000,000	1,000,000	1,000,000
1963-64	1,000,000	1,000,000	1,000,000	1,000,000
1962-63	1,000,000	1,000,000	1,000,000	1,000,000
1961-62	1,000,000	1,000,000	1,000,000	1,000,000
1960-61	1,000,000	1,000,000	1,000,000	1,000,000
1959-60	1,000,000	1,000,000	1,000,000	1,000,000
1958-59	1,000,000	1,000,000	1,000,000	1,000,000
1957-58	1,000,000	1,000,000	1,000,000	1,000,000
1956-57	1,000,000	1,000,000	1,000,000	1,000,000
1955-56	1,000,000	1,000,000	1,000,000	1,000,000
1954-55	1,000,000	1,000,000	1,000,000	1,000,000
1953-54	1,000,000	1,000,000	1,000,000	1,000,000
1952-53	1,000,000	1,000,000	1,000,000	1,000,000
1951-52	1,000,000	1,000,000	1,000,000	1,000,000
1950-51	1,000,000	1,000,000	1,000,000	1,000,000
1949-50	1,000,000	1,000,000	1,000,000	1,000,000
1948-49	1,000,000	1,000,000	1,000,000	1,000,000
1947-48	1,000,000	1,000,000	1,000,000	1,000,000
1946-47	1,000,000	1,000,000	1,000,000	1,000,000
1945-46	1,000,000	1,000,000	1,000,000	1,000,000
1944-45	1,000,000	1,000,000	1,000,000	1,000,000
1943-44	1,000,000	1,000,000	1,000,000	1,000,000
1942-43	1,000,000	1,000,000	1,000,000	1,000,000
1941-42	1,000,000	1,000,000	1,000,000	1,000,000
1940-41	1,000,000	1,000,000	1,000,000	1,000,000
1939-40	1,000,000	1,000,000	1,000,000	1,000,000
1938-39	1,000,000	1,000,000	1,000,000	1,000,000
1937-38	1,000,000	1,000,000	1,000,000	1,000,000
1936-37	1,000,000	1,000,000	1,000,000	1,000,000
1935-36	1,000,000	1,000,000	1,000,000	1,000,000
1934-35	1,000,000	1,000,000	1,000,000	1,000,000
1933-34	1,000,000	1,000,000	1,000,000	1,000,000
1932-33	1,000,000	1,000,000	1,000,000	1,000,000
1931-32	1,000,000	1,000,000	1,000,000	1,000,000
1930-31	1,000,000	1,000,000	1,000,000	1,000,000
1929-30	1,000,000	1,000,000	1,000,000	1,000,000
1928-29	1,000,000	1,000,000	1,000,000	1,000,000
1927-28	1,000,000	1,000,000	1,000,000	1,000,000
1926-27	1,000,000	1,000,000	1,000,000	1,000,000
1925-26	1,000,000	1,000,000	1,000,000	1,000,000
1924-25	1,000,000	1,000,000	1,000,000	1,000,000
1923-24	1,000,000	1,000,000	1,000,000	1,000,000
1922-23	1,000,000	1,000,000	1,000,000	1,000,000
1921-22	1,000,000	1,000,000	1,000,000	1,000,000
1920-21	1,000,000	1,000,000	1,000,000	1,000,000
1919-20	1,000,000	1,000,000	1,000,000	1,000,000
1918-19	1,000,000	1,000,000	1,000,000	1,000,000
1917-18	1,000,000	1,000,000	1,000,000	1,000,000
1916-17	1,000,000	1,000,000	1,000,000	1,000,000
1915-16	1,000,000	1,000,000	1,000,000	1,000,000
1914-15	1,000,000	1,000,000	1,000,000	1,000,000
1913-14	1,000,000	1,000,000	1,000,000	1,000,000
1912-13	1,000,000	1,000,000	1,000,000	1,000,000
1911-12	1,000,000	1,000,000	1,000,000	1,000,000
1910-11	1,000,000	1,000,000	1,000,000	1,000,000
1909-10	1,000,000	1,000,000	1,000,000	1,000,000
1908-09	1,000,000	1,000,000	1,000,000	1,000,000
1907-08	1,000,000	1,000,000	1,000,000	1,000,000
1906-07	1,000,000	1,000,000	1,000,000	1,000,000
1905-06	1,000,000	1,000,000	1,000,000	1,000,000
1904-05	1,000,000	1,000,000	1,000,000	1,000,000
1903-04	1,000,000	1,000,000	1,000,000	1,000,000
1902-03	1,000,000	1,000,000	1,000,000	1,000,000
1901-02	1,000,000	1,000,000	1,000,000	1,000,000
1900-01	1,000,000	1,000,000	1,000,000	1,000,000
1899-00	1,000,000	1,000,000	1,000,000	1,000,000
1898-99	1,000,000	1,000,000	1,000,000	1,000,000
1897-98	1,000,000	1,000,000	1,000,000	1,000,000
1896-97	1,000,000	1,000,000	1,000,000	1,000,000
1895-96	1,000,000	1,000,000	1,000,000	1,000,000
1894-95	1,000,000	1,000,000	1,000,000	1,000,000
1893-94	1,000,000	1,000,000	1,000,000	1,000,000
1892-93	1,000,000	1,000,000	1,000,000	1,000,000
1891-92	1,000,000	1,000,000	1,000,000	1,000,000
1890-91	1,000,000	1,000,000	1,000,000	1,000,000
1889-90	1,000,000	1,000,000	1,000,000	1,000,000
1888-89	1,000,000	1,000,000	1,000,000	1,000,000
1887-88	1,000,000	1,000,000	1,000,000	1,000,000
1886-87	1,000,000	1,000,000	1,000,000	1,000,000
1885-86	1,000,000	1,000,000	1,000,000	1,000,000
1884-85	1,000,000	1,000,000	1,000,000	1,000,000
1883-84	1,000,000	1,000,000	1,000,000	1,000,000
1882-83	1,000,000	1,000,000	1,000,000	1,000,000
1881-82	1,000,000	1,000,000	1,000,000	1,000,000
1880-81	1,000,000	1,000,000	1,000,000	1,000,000
1879-80	1,000,000	1,000,000	1,000,000	1,000,000
1878-79	1,000,000	1,000,000	1,000,000	1,000,000
1877-78	1,000,000	1,000,000	1,000,000	1,000,000
1876-77	1,000,000	1,000,000	1,000,000	1,000,000
1875-76	1,000,000	1,000,000	1,000,000	1,000,000
1874-75	1,000,000	1,000,000	1,000,000	1,000,000
1873-74	1,000,000	1,000,000	1,000,000	1,000,000
1872-73	1,000,000	1,000,000	1,000,000	1,000,000
1871-72	1,000,000	1,000,000	1,000,000	1,000,000
1870-71	1,000,000	1,000,000	1,000,000	1,000,000
1869-70	1,000,000	1,000,000	1,000,000	1,000,000
1868-69	1,000,000	1,000,000	1,000,000	1,000,000
1867-68	1,000,000	1,000,000	1,000,000	1,000,000
1866-67	1,000,000	1,000,000	1,000,000	1,000,000
1865-66	1,000,000	1,000,000	1,000,000	1,000,000
1864-65	1,000,000	1,000,000	1,000,000	1,000,000
1863-64	1,000,000	1,000,000	1,000,000	1,000,000
1862-63	1,000,000	1,000,000	1,000,000	1,000,000
1861-62	1,000,000	1,000,000	1,000,000	1,000,000
1860-61	1,000,000	1,000,000	1,000,000	1,000,000
1859-60	1,000,000	1,000,000	1,000,000	1,000,000
1858-59	1,000,000	1,000,000	1,000,000	1,000,000
1857-58	1,000,000	1,000,000	1,000,000	1,000,000
1856-57	1,000,000	1,000,000	1,000,000	1,000,000
1855-56	1,000,000	1,000,000	1,000,000	1,000,000
1854-55	1,000,000	1,000,000	1,000,000	1,000,000
1853-54	1,000,000	1,000,000	1,000,000	1,000,000
1852-53	1,000,000	1,000,000	1,000,000	1,000,000
1851-52	1,000,000	1,000,000	1,000,000	1,000,000
1850-51	1,000,000	1,000,000	1,000,000	1,000,000
1849-50	1,000,000	1,000,000	1,000,000	1,000,000
1848-49	1,000,000	1,000,000	1,000,000	1,000,000
1847-48	1,000,000	1,000,000	1,000,000	1,000,000
1846-47	1,000,000	1,000,000	1,000,000	1,000,000
1845-46	1,000,000	1,000,000	1,000,000	1,000,000
1844-45	1,000,000	1,000,000	1,000,000	1,000,000
1843-44	1,000,000	1,000,000	1,000,000	1,000,000
1842-43	1,000,000	1,000,000	1,000,000	1,000,000
1841-42	1,000,000	1,000,000	1,000,000	1,000,000
1840-41	1,000,000	1,000,000	1,000,000	1,000,000
1839-40	1,000,000	1,000,000	1,000,000	1,000,000
1838-39	1,000,000	1,000,000	1,000,000	1,000,000
1837-38	1,000,000	1,000,000	1,000,000	1,000,000
1836-37	1,000,000	1,000,000	1,000,000	1,000,000
1835-36	1,000,000	1,000,000	1,000,000	1,000,000
1834-35	1,000,000	1,000,000	1,000,000	1,000,000
1833-34	1,000,000	1,000,000	1,000,000	1,000,000
1832-33	1,000,000	1,000,000	1,000,000	1,000,000
1831-32	1,000,000	1,000,000	1,000,000	1,000,000
1830-31	1,000,000	1,000,000	1,000,000	1,000,000
1829-30	1,000,000	1,000,000	1,000,000	1,000,000
1828-29	1,000,000	1,000,000	1,000,000	1,000,000
1827-28	1,000,000	1,000,000	1,000,000	1,000,000
1826-27	1,000,000	1,000,000	1,000,000	1,000,000
1825-26	1,000,000	1,000,000	1,000,000	1,000,000
1824-25	1,000,000	1,000,000	1,000,000	1,000,000
1823-24	1,000,000	1,000,000	1,000,000	1,000,000
1822-23	1,000,000	1,000,000	1,000,000	1,000,000
1821-22	1,000,000	1,000,000	1,000,000	1,000,000
1820-21	1,000,000	1,000,000	1,000,000	1,000,000
1819-20	1,000,000	1,000,000	1,000,000	1,000,000
1818-19	1,000,000	1,000,000	1,000,000	1,000,000
1817-18	1,000,000	1,000,000	1,000,000	1,000,000
1816-17	1,000,000	1,000,000	1,000,000	1,000,000
1815-16	1,000,000	1,000,000	1,000,000	1,000,000
1814-15	1,000,000	1,000,000	1,000,000	1,000,000
1813-14	1,000,000	1,000,000	1,000,000	1,000,000
1812-13	1,000,000	1,000,000	1,000,000	1,000,000
1811-12	1,000,000	1,000,000	1,000,000	1,000,000
1810-11	1,000,000	1,000,000	1,000,000	1,000,000
1809-10	1,000,000	1,000,000	1,000,000	1,000,000
1808-09	1,000,000	1,000,000	1,000,000	1,000,000
1807-08	1,000,000	1,000,000	1,000,000	1,000,000
1806-07	1,000,000	1,000,000	1,000,000	1,000,000
1805-06	1,000,000	1,000,000	1,000,000	1,000,000
1804-05	1,000,000	1,000,000	1,000,000	1,000,000
1803-04	1,000,000	1,000,000	1,000,000	1,000,000
1802-03	1,000,000	1,000,000	1,000,000	1,000,000
1801-02	1,000,000	1,000,000	1,000,000	1,000,000

PIPE LINE DIVISION

Report of the Superintendent of Pipe Lines

A. L. BERRY

During the fiscal year ending March 31, 1965, 1,344 miles of pipe line were licenced. The pattern of the previous fiscal year continued in that over one-half of the total pipe line mileage was for main gas lines and secondary lines for gas, approximately one-third for main oil lines and secondary lines for oil and the remainder being accounted for by recovery schemes within oil fields.

Bow River Pipe Lines Ltd. completed a 275 mile crude oil transmission line together with connecting laterals in record time. The work commenced May 19th and was completed by July 24th, 1964, utilizing two spreads of equipment. The line runs from the Taber area, north to the Hardisty Pump Station of Interprovincial Pipe Line Company. This pipe line provides the south-eastern Alberta oil fields with a pipe line outlet for the first time.

Mitsue Pipeline Ltd. completed a 100 mile, 10-inch diameter, crude oil line from the Slave Lake — Mitsue Oil Field to Redwater. The work commenced September 30th, 1964 at the Redwater end. Almost 80 miles of line was completed to the Athabasca River by November 6th, 1964. Using winter construction techniques, the remainder of the line together with a 45 mile, 8-inch diameter extension from Mitsue to the new Nipisi Oil Field was completed by March, 1965.

The Alberta Gas Trunk Line Company Limited completed a major expansion program consisting of 87 miles of 34-inch diameter loop from Princess to Hussar, and a 76 mile extension of 34-inch diameter line from Hussar to Carstairs. A start was made on the north end of a 172 mile, 30-inch diameter extension from Carstairs to the Edson Gas Field. Despite severely cold weather, heavy snow fall prevented the frost from penetrating more than a foot in depth and the work proceeded well until the March thaw made access impossible. Almost 75 miles of line was completed between the Nordegg River and Edson. The remainder of the extension will be completed during the summer of 1965.

It is of interest to note that winter construction is becoming commonplace in Northern areas where summer access over the muskeg is very expensive and requires track equipment and a great deal of ripping. Special techniques have been worked out for ripping frost, ditching, and for preheating of the pipe lines by means of propane burners prior to the welding operation and again prior to the coating operation. Laying and back-filling follows the welding and coating the same day so as to avoid damage due to back-filling with frozen material. The application of these techniques provides a completed job equally satisfactory to summer construction. Where the line is buried below frost

depth, hydrostatic proof testing using water as the test medium has been successfully carried out during winter months with suitable temporary heating of enclosures at the fill, drain, and test locations.

The Pipe Line Division staff remained unchanged with a total of 19 employees.

The following table shows the mileage and licence statistics related to the various classifications of pipe lines for the year ending March 31, 1965.

SUMMARY OF PIPE LICENCES

	Licensed at March 31, 1964		Licensed During The Year		Cancelled During The Year		Licensed at March 31, 1965	
	Number of Licences	Mileage of Pipe Line	Number of Licences	Mileage of Pipe Line	Number Cancelled	Mileage Cancelled	Number of Licences	Mileage of Pipe Line
Oil Lines	97	2043.97	10	207.73			107	2251.70
Gas Lines	451	4721.96	40	247.83	5	90.33	486	4879.46
Secondary Lines for Oil	1514	1964.86	67	178.15	9	8.67	1572	2134.34
Secondary Lines for Gas	721	3302.53	123	413.48	2	29.25	842	3686.76
Secondary Lines for Water and Other Substances.....	425	1144.41	73	174.00	2	6.68	496	1311.73
Distribution Lines	749	509.82	124	123.11	3	36.42	870	596.51
Private Lines	333	44.88			1	.02	332	44.86
TOTAL	4290	13732.43	437	1344.30	22	171.37	4705	14905.36

TECHNICAL DIVISION

Report of the Superintendent of the Technical Division

J. M. NOVAK

The following report summarizes the operations of the Technical Division for the fiscal year ending March 31, 1965.

DRAUGHTING, LAND DESCRIPTIONS AND GENERAL

The series of maps covering approximately forty-eight townships for each area and on a scale of three-quarters of an inch to the mile were drawn covering the following areas:

ATHABASCA—Townships 61 to 68, Ranges 22 to 27, West of the 4th Meridian.

CALLING LAKE—Townships 69 to 76, Ranges 22 to 27, West of the 4th Meridian.

CALLING LAKE EAST—Townships 69 to 76, Ranges 16 to 21, West of the 4th Meridian.

CONRAD—Townships 1 to 6, Ranges 14 to 19, West of the 4th Meridian.

FIGURE LAKE—Townships 61 to 68, Ranges 16 to 21, West of the 4th Meridian.

RED EARTH EAST—Townships 85 to 92, Ranges 22 to 26, West of the 4th Meridian and Ranges 1 and 2, West of the 5th Meridian.

SPRING COULEE—Townships 1 to 6, Ranges 20 to 25, West of the 4th Meridian.

WABASCA—Townships 77 to 84, Ranges 22 to 26, West of the 4th Meridian and Ranges 1 and 2, West of the 5th Meridian.

One new map of the standard size 30"x52" and on a scale of two inches to the mile was prepared for the following field:

PEMBINA—Townships 47 to 50, Ranges 1 and 2, West of the 5th Meridian.

One new map was drawn to the scale of two inches to the mile on a transparent township plan covering the HAZELDINE field.

All new maps drawn and previously drawn are subject to showing the locations of wells as well licences are granted. When the status of a well changes, it is adjusted on the maps. The limits of fields as established by the Oil and Gas Conservation Board are also included on the maps.

A map of the Province showing the location of oil and gas field maps published to March 31, 1965, is included in this report.

A total of 4,725 maps were distributed by the Department. A list of maps is available indicating the price of each map.

Two maps of a new series on a scale of one inch to twelve miles showing company pipe line systems operating in the Pro-

vince and indicating source and substance being transmitted, distribution, sales taps, size of pipe and operating pressure were prepared covering the following operators:

Gas Lines—The Alberta Gas Trunk Line Company Limited.

Gas Lines—Northwestern Utilities, Limited, Canadian Western Natural Gas Company Limited and Northland Utilities, Limited.

The pipe line maps are subject to showing changes and additions to systems where operating licences are granted.

During the year, 2,051 applications for licences to drill wells were recommended for issue by the Oil and Gas Conservation Board, which is an increase of 205 over the 1,846 applications dealt with in the previous year. The Division, upon receipt of each application, searches the ownership of Crown Minerals in the spacing unit allotted to the well.

Land descriptions were prepared for all mineral dispositions, as well as descriptions for recommendations to council.

The map of Alberta showing the areas covered by all petroleum and natural gas reservations to March 31, 1964, has been revised to indicate the area of reservations issued during the present year and is included in this report.

The photostat print requirements of the Department, as in past years, continued to be supplied by the Technical Division, Department of Lands and Forests. This Division supplies the ozalid print requirements of the Department.

The plan attached to each of the 213 applications for quartz claims was examined and, when satisfactory, plotted in the departmental township record.

RECORDS

In addition to the work completed as shown in the tables hereunder, the Records Branch of the Division supplied 2,149 township plots to the public indicating available Crown minerals and status of Crown minerals compared to 2,702 plots distributed in the previous year.

*DISPOSITIONS, CANCELLATIONS AND TRANSFERS RECORDED IN

THE TOWNSHIP REGISTERS		1963-64	1964-65
Petroleum and Natural Gas Leases		6,279	6,076
Petroleum and Natural Gas Reservations		451	531
Petroleum and Natural Gas Permits		175	252
Petroleum Leases		1	2
Bituminous Sands Prospecting Permits		4	7
Bituminous Sands Leases			3
Oil Sands Leases			6
Oil Sands Prospecting Permits			3
Crown Reserve Drilling Reservations		170	186
Crown Reserve Natural Gas Licences		10	6
Natural Gas Licences		30	39
Natural Gas Leases		85	81
Coal Leases		64	94
Road Allowance Coal Leases		8	10
Quarrying Leases		30	12
Quartz Claims		348	471
Placer Claims		1	1
Iron Prospecting Permits		7	4
Iron Leases		1	1
Mineral Sales		5	4
Transfers		1,460	1,772
Notifications		1	38
Pipe Line Permits		582	752
Pipe Line Licences		632	460
TOTALS		10,344	10,811

*Includes issued, reinstated, divided, renewed and certificates of work.

NUMBER OF AGREEMENTS TRANSFERRED

	1963-64	1964-65
Petroleum and Natural Gas Lease	4,275	4,341
Petroleum and Natural Gas Reservation	124	154
Petroleum and Natural Gas Permit	16	16
Bituminous Sands Prospecting Permit	1	3
Bituminous Sands Lease	4	5
Oil Sands Lease .....	.....	2
Crown Reserve Drilling Reservation	26	26
Crown Reserve Natural Gas Licence	1	1
Natural Gas Licence	1	5
Natural Gas Lease	73	74
Coal Lease	10	7
Quarrying Lease	3	6
Geophysical Licence .....	.....	1
Pipe Line Permit	5	8
Pipe Line Licence	47	27
Provisional Pipe Line Licence	17	3
TOTALS	4,603	4,679

NUMBER OF DOCUMENTS FILED

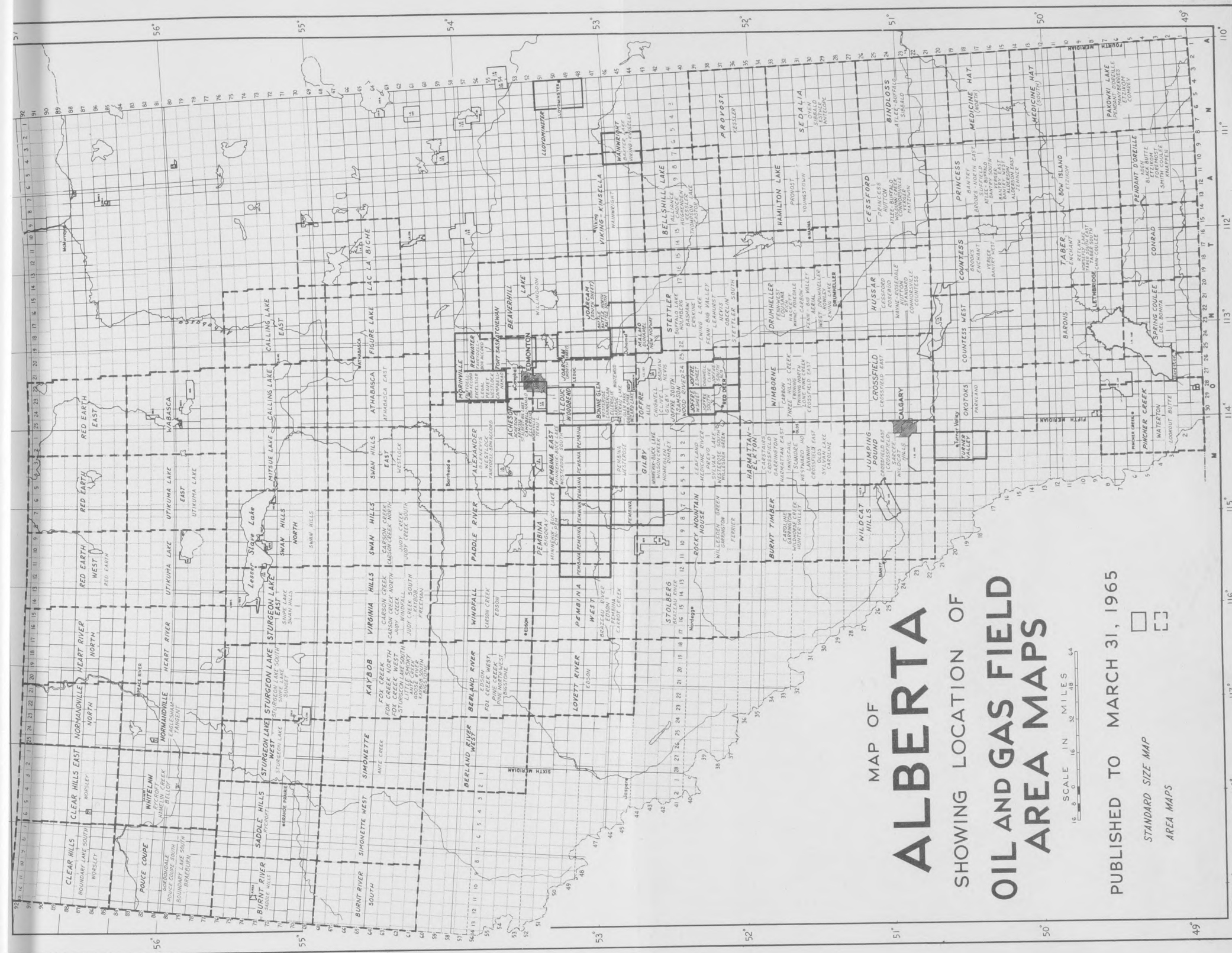
	1963-64	1964-65
Type of Document		
Lis Pendens	1	.....
Mechanic's Lien	2	33
Discharge of Mechanic's Lien	3	6
Bank Securities	261	314
Discharge of Bank Securities	129	123
Hypothecation of Pipe Line	6	3
Discharge of Hypothecation	1	3
TOTALS	403	482

NUMBER OF PIPE LINE PERMITS AND LICENCES HYPOTHECATED

	1963-64	1964-65
Pipe Line Permits	51	48
Pipe Line Licences	138	124
TOTALS	189	172

One transfer was issued during the fiscal year for the return of minerals underlying a roadway to the owner of the adjacent minerals. Three Notifications were issued to return minerals underlying surveyed roadways to an Indian Reserve and thirty-five notifications, for the correction of certificates of title, were issued for minerals underlying a Railway Right of Way.

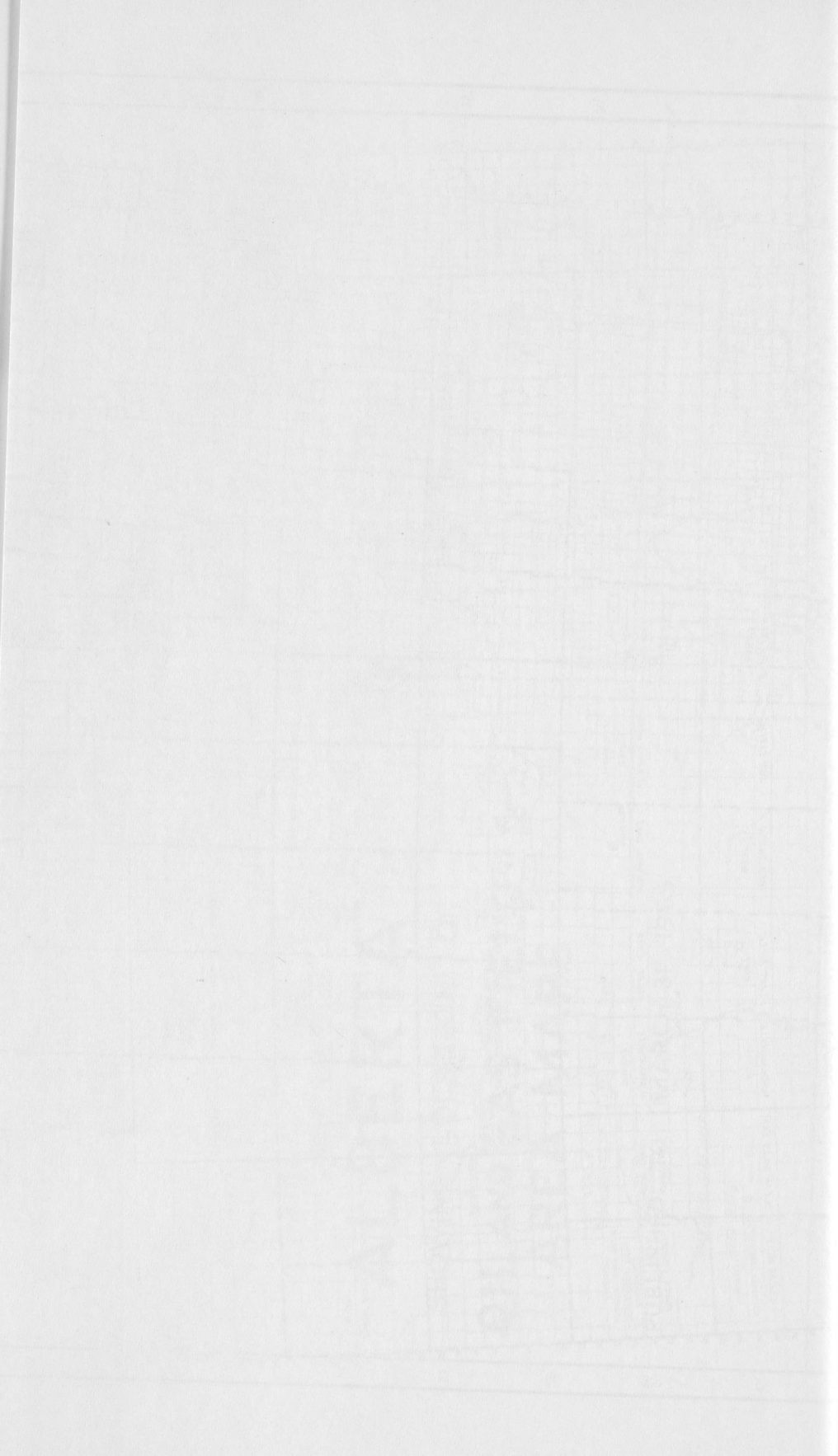
During the sixteen years of operation of the Department, one hundred and seventy-one notifications and thirty-six transfers have been issued.

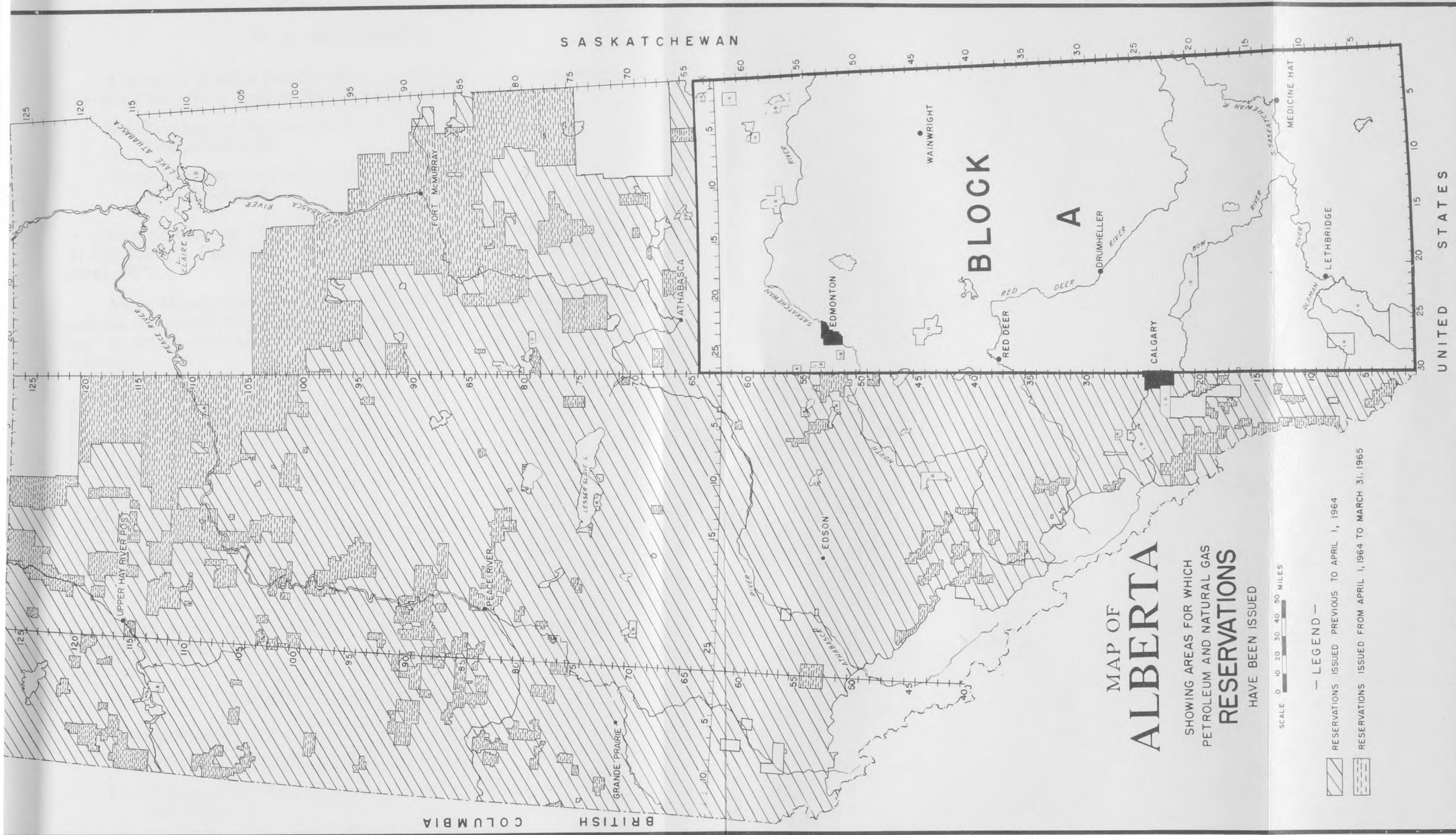


MAP OF
ALBERTA
SHOWING LOCATION OF
**OIL AND GAS FIELD
AREA MAPS**

PUBLISHED TO MARCH 31, 1965

STANDARD SIZE MAP
AREA MAPS





MAP OF ALBERTA

SHOWING AREAS FOR WHICH
PETROLEUM AND NATURAL GAS
RESERVATIONS
HAVE BEEN ISSUED

SCALE 0 10 20 30 40 50 MILES

- LEGEND —
- [Diagonal hatching] RESERVATIONS ISSUED PREVIOUS TO APRIL 1, 1964
 - [Cross-hatching] RESERVATIONS ISSUED FROM APRIL 1, 1964 TO MARCH 31, 1965

UNITED STATES

ACCOUNTING DIVISION

*Report of the Administrative Accountant and
Personnel Officer*

W. E. SHILLABEER

A surplus of \$204,159,853.06 on Income Account was shown for the Fiscal Year ending March 31st, 1965.

Net Revenue on Income Account amounted to
\$205,878,810.22.

Gross Receipts from all sources amounted to
\$213,609,096.85.

Expenditure on Income Account for the year amounted to \$1,466,529.49. Particulars of expenditure may be found in Statement "C".

As at March 31st, 1965 there were 39,322 Accounts Receivable as compared with 37,959 as at March 31st, 1964. The number of active accounts as at March 31st, 1965 is made up as follows:

	Number of Accounts
Petroleum and Natural Gas Leases, Rental	29,398
Petroleum and Natural Gas Leases, Royalty	2,165
Petroleum and Natural Gas Reservations	895
Petroleum and Natural Gas Drilling Reservations	162
Petroleum and Natural Gas Permits	200
Natural Gas Licences	13
Natural Gas Leases	985
Crown Reserve Natural Gas Licences	2
Coal Leases, Rental	515
Coal Leases, Royalty	84
Quarrying Royalty	100
Bituminous Sands, Rental	89
Oil Sands, Rental	25
Registration of Assignment Tax	165
Mining Leases, (Miscellaneous)	40
Compensatory Royalty	84
Mineral Tax (Producing Area)	4,400
	<u>39,322</u>

There were 3,646 accounts cancelled or closed and 5,009 accounts opened.

INDEX TO STATEMENTS

- A—Statement of Receipts from all sources.
- B—Statement of Receipts—Income Account.
- C—Statement of Expenditure by Appropriation and Character.
- D—Statement of Net Receipts by Division.
- E—Statement of Receipts and Expenditure.
- F—Statement of Fiscal Revenue for the Last Five Years and Total Revenue for the Period April 1, 1949 to March 31, 1965.

Statement "A"

STATEMENT OF RECEIPTS FROM ALL SOURCES

From April 1st, 1964 to March 31st, 1965

	Gross Receipts	Refunds	Net Receipts
Income Account (See Statement "B")	\$206,087,821.58	\$ 461,439.03	\$205,626,382.55
Transferred Collections	2,985.80	—	2,985.80
Suspense (Unapplied receipts carried forward subject to refund)	7,518,289.47	7,268,847.60	249,441.87
	\$213,609,096.85	\$ 7,730,286.63	\$205,878,810.22

Statement "B"

STATEMENT OF RECEIPTS — INCOME ACCOUNT

From April 1st, 1964 to March 31st, 1965

	Gross Receipts	Refunds	Net Receipts
COAL MINING			
Coal Fees, Rental, etc.	\$ 64,760.88	\$ 2,158.80	\$ 62,602.08
Coal Royalty	174,003.24	—	174,003.24
Coal Sundry Revenue	2,292.25	—	2,292.25
PETROLEUM AND NATURAL GAS			
Petroleum & Natural Gas Fees, Rental, etc.	48,427,306.76	395,245.56	48,032,061.20
Petroleum and Natural Gas Royalty	62,145,065.98	50,494.52	62,094,571.46
Crown Reserve Sales	91,908,326.63	—	91,908,326.63
MISCELLANEOUS			
Quarrying Fees, Rental and Royalty	63,777.35	12.50	63,764.85
Bituminous Sands Fees, Rental etc.	825,801.15	—	825,801.15
Oil Sands Fees and Rental	240,882.26	—	240,882.26
Miscellaneous Mining	141,983.64	7,338.68	134,644.96
Well Licences	52,350.00	—	52,350.00
MINERAL TAX	1,942,843.40	2,076.72	1,940,766.68
PIPE LINE SUNDRY REVENUE	10,592.90	50.00	10,542.90
ADMINISTRATION SUNDRY REVENUE	87,835.14	4,062.25	83,772.89
TOTAL INCOME ACCOUNT			
(Carried to Statement "A")	\$206,087,821.58	\$461,439.03	\$205,626,382.55

EXPENDITURE CLASSIFIED BY APPROPRIATION AND CHARACTER
FOR THE FISCAL YEAR ENDED MARCH 31, 1965
INCOME ACCOUNT

Statement "C"

SERVICE	2001 Minister's Office	2002 General Administration	2004 Pipe Line Division	2005 Geological Division	2006 Mines Division	2007 Minerals Division	2008 Mineral Tax Division	2009 Oil and Gas Property Tax	2010 Technical Division	2011 Abandonment of Mining Properties	2012 Redemption of Mineral Titles	2014 Right of Entry Arbitration Board	2015 Supervisory and Safety Training Program	2016 Surface Reclamation	2017 Loss or Damage to Persons	T O T A L
Advertising	-----	-----	-----	-----	-----	5,904.47	-----	-----	-----	-----	-----	-----	-----	-----	-----	5,904.47
Automobiles, Trucks, & Mobile Equipment Expenses	-----	750.35	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	750.35
Compensation	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,476.90	1,651.00	4,327.90
Contracts and Agreements	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,200.00	-----	-----	-----	-----	-----	11,075.42
Fees and Commissions	-----	481.00	111.00	-----	39.00	-----	70.00	-----	-----	-----	-----	55.00	-----	-----	-----	756.00
Freight, Express & Cartage	-----	66.62	1.15	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	67.77
Furnishings, Equipment & Tools.....	126.65	8,491.64	2,553.72	-----	-----	1,656.65	1,854.24	-----	3,258.98	-----	-----	-----	-----	195.73	-----	18,137.61
Grants, Prizes	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3,600.00	-----	-----	3,600.00
Materials, Supplies, Administrative Miscellaneous Expenses	91.87	17,560.92	4,128.71	-----	734.85	2,462.54	1,838.79	-----	15,884.04	-----	-----	1,879.58	-----	328.47	-----	44,909.77
Stage	-----	3.19	135.03	4,006.68	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4,144.90
Stamps	124.00	2,470.42	525.00	-----	492.24	6,859.52	1,735.00	-----	283.00	-----	-----	339.40	-----	553.00	-----	13,381.58
Taxes	-----	-----	-----	-----	3.00	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3.00
Transfers and Remissions	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	20,987.37	-----	-----	-----	-----	20,987.37
Repair and Maintenance of Office Machines	98.42	1,201.47	172.31	-----	202.42	1,021.04	426.08	-----	708.82	-----	-----	136.83	-----	122.20	-----	4,089.59
Salaries	11,470.00	146,279.08	109,055.09	-----	66,374.63	271,325.32	93,962.19	-----	221,352.53	-----	-----	74,704.61	-----	99,094.14	-----	1,093,617.59
Taxes	-----	-----	-----	-----	-----	-----	-----	124,859.57	-----	-----	-----	-----	-----	-----	-----	124,859.57
Telephones and Telegraphs	874.66	761.94	3,586.20	-----	278.90	3,753.50	51.50	-----	2,163.65	-----	-----	537.85	-----	2,667.45	-----	14,675.65
Travelling Expenses of Other Than Public Servants	-----	112.00	-----	-----	194.09	-----	-----	-----	-----	-----	-----	-----	-----	12,440.01	-----	12,746.10
Travelling Expenses of Public Servants	1,111.36	1,261.21	30,227.11	-----	8,442.58	459.71	2,031.75	-----	643.60	-----	-----	6,434.15	-----	37,883.38	-----	88,494.85
TOTAL: Income Account	13,896.96	179,439.84	150,495.32	4,006.68	76,761.71	293,442.75	101,969.55	124,859.57	244,294.62	12,275.42	20,987.37	84,087.42	3,600.00	154,761.28	1,651.00	1,466,529.49

Statement "D"

STATEMENT OF NET RECEIPTS BY DIVISION

For the Fiscal Year Ending March 31st, 1965

INCOME ACCOUNT:

Minerals Division	\$203,589,007.83
Mineral Tax Division	1,940,766.68
Mines Division	2,292.25
Pipe Line Division	10,542.90
Miscellaneous (Administration Sundry Revenue, etc.)	83,772.89
TRANSFERRED TO OTHER DEPARTMENTS	2,985.80
SUSPENSE (Unapplied receipts carried forward, subject to refund)	249,441.87
	<u>\$205,878,810.22</u>

Statement "E"

STATEMENT OF RECEIPTS AND EXPENDITURE

For the Fiscal Year Ending March 31st, 1965

Gross Receipts	Refunds	Net Receipts	Net Revenue on Income Account	Total Expenditure from Appro- priations	Surplus on Income Account
\$213,609,096.85	\$7,730,286.63	\$205,878,810.22	\$205,626,382.55	\$1,466,529.49	\$204,159,853.06

DEPARTMENT OF MINES AND MINERALS

Statement "F"

STATEMENT OF FISCAL REVENUE FOR THE LAST FIVE YEARS

AND

TOTAL REVENUE FOR THE PERIOD APRIL 1, 1949 TO MARCH 31, 1965

	Total Revenue April 1, 1949 To March 31, 1960	1960-61	1961-62	1962-63	1963-64	1964-65	Total Revenue April 1, 1949 to March 31, 1965
COAL							
Fees and Rental	\$ 1,282,416.07	\$ 48,840.26	\$ 67,998.95	\$ 45,776.57	\$ 89,254.08	\$ 62,602.08	\$ 1,596,888.01
Royalty	3,290,486.39	72,821.12	80,485.14	112,598.42	122,487.80	174,003.24	3,852,832.11
Sundry Revenue	41,830.00	2,534.85	2,457.50	2,371.85	2,127.05	2,292.25	53,613.50
PETROLEUM AND NATURAL GAS							
Fees and Rental	227,100,191.73	30,898,834.06	32,402,667.57	38,684,476.58	38,592,813.58	48,032,061.20	425,642,044.72
Royalty	223,808,080.19	27,741,083.63	33,138,163.40	51,038,312.99	56,777,130.34	62,094,571.46	460,622,244.01
Crown Reserve Sales	521,000,608.83	44,127,513.03	44,230,641.86	30,458,503.68	62,834,139.01	91,906,826.63	784,719,783.04
SALT							
Fees and Rental	12,753.40	1,005.60	1,005.60	1,005.60	1,005.60	1,005.60	17,781.40
Royalty	88,586.01	11,725.31	12,367.82	13,733.64	12,742.65	15,892.92	155,068.35
QUARRYING							
Fees and Rental	4,004.37	140.00	155.00	140.34	101.00	31.00	4,571.71
Royalty	451,325.13	57,095.90	56,409.75	68,071.07	63,128.81	63,733.85	759,764.51
QUARTZ							
Fees and Royalty	33,646.24	810.00	880.00	4,335.00	4,135.00	4,790.00	48,616.24
PLACER							
Fees and Royalty	6,081.52	250.00	10.00	450.00	-----	-----	6,791.52
BITUMINOUS SANDS							
Fees, Rental and Royalty	1,885,019.09	672,044.79	767,431.39	654,684.76	644,906.83	825,801.15	5,449,888.01
OIL SANDS							
Fees and Rental	-----	-----	178,840.84	184,531.04	171,460.64	240,882.26	775,714.78
MINING MISCELLANEOUS							
Fees, Rental and Royalty	1,945,865.31	128,541.68	138,376.48	152,794.84	152,527.51	165,306.44	2,683,412.26
MINERAL TAXATION ACT							
Non-Producing Area Tax	3,263,182.66	303,051.45	277,992.80	530,170.30	550,217.99	579,559.49	5,504,174.69
Producing Area Tax	9,105,865.63	957,673.20	991,779.50	1,210,475.19	1,387,777.54	1,360,838.69	14,993,909.75
Certificate Fees	12,934.10	339.00	545.50	446.50	203.00	368.50	14,836.60
PIPE LINE ACT SUNDRY REVENUE							
-----	6,297.50	10,110.50	10,219.00	11,028.50	11,784.25	10,542.90	59,982.65
ADMINISTRATION SUNDRY REVENUE							
-----	675,206.42	55,667.62	78,745.13	85,640.96	73,784.48	83,772.89	1,062,817.50
TOTAL	\$1,004,008,780.59	\$105,090,034.00	\$118,558,173.23	\$123,299,617.83	\$151,481,747.16	\$205,626,382.55	\$1,708,014,735.36

PERSONNEL

The number of employees in the Department showed an increase of two from 225 on April 1st, 1964 to 227 on March 31st, 1965.

During the year 34 employees left the Department. Of these, three left the City, eight resigned to accept employment outside the Government Service, three left to further their education, six transferred to other Departments and one was lost through death. The remainder left for various other reasons.

Date Due

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